1859 PUBLISHED WEEKLY 1918

CHEMICAL LIBRARY JUL 1 1918

AMERICAN GAS ENGINEERING JOURNAL

FORMERLY

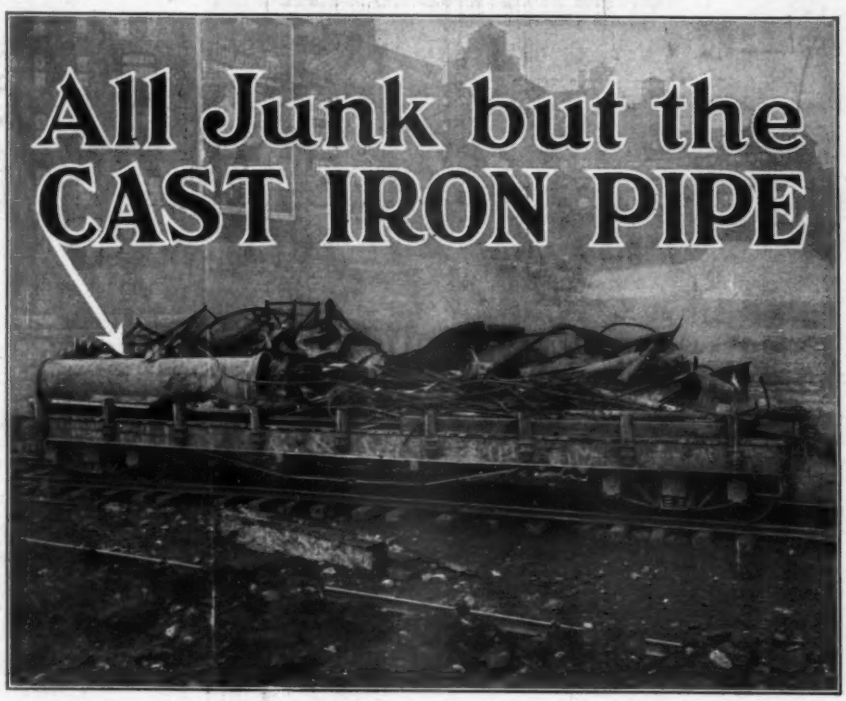
AMERICAN GAS LIGHT JOURNAL

VOL. CVIII., No. 26
WHOLE No. 3147

NEW YORK, SATURDAY, JUNE 29, 1918

Subscription $3 per year
$4 Canada $5 Foreign

All Junk but the CAST IRON PIPE



Here is but a suggestion of the enormous waste of material caused by corrosion.

This picture was taken recently on the site of the new Union Station in Chicago and represents material which has been in service from ten to perhaps forty years, with the cast iron pipe for the longer period.

And not one pound of it has any other than scrap value—except the cast iron pipe, which is as good as new and worth MORE than its original cost.

The Cast Iron Pipe Publicity Bureau, 1 Broadway, New York

INDEX TO CONTENTS, PAGE 620

In Two Sections—Section I

ADVERTISERS' INDEX, PAGE 20

The Gas Machinery Company

Cleveland, Ohio

COAL GAS PLANTS **WATER GAS PLANTS**

BY-PRODUCT MACHINERY

NOTE:—

This advertisement is only to keep
you reminded of the

U. G. I. Vertical Retorts

The best system of coal carbonization
in America today

Figures prove this and the guarantees of

THE UNITED GAS IMPROVEMENT CO., Philadelphia

Back it up

AMERICAN
GAS ENGINEERING JOURNAL

FORMERLY THE AMERICAN GAS LIGHT JOURNAL

Vol. CVIII, No. 26 NEW YORK, JUNE 29, 1918 Whole No. 3147

Raise Consumption of One Customer from 3000 Cu. Ft. a Month to 10,500,000 Cu. Ft. in Little More Than a Year

Stockton, Cal., Company Mainly Interested in Replacing Fuel Oil and Gasoline for Power Generation and Industrial Work, but Does Not Neglect the Million and a Half Cubic Feet Load Needed for Heating Buildings—Hot Water Supply Alone a Considerable Business

By D. E. WIDDERSHEIM,
Superintendent, Gas Department, Western States Gas and Electric Company, Stockton, Cal.

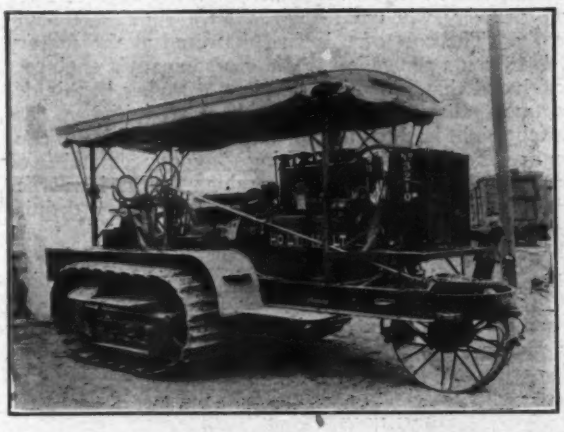
During the last year one of the largest engineering factories west of Chicago has been converted to an all-gas system from what was previously a miscellaneous system of heating and power supply. This work has been brought about through the efforts of the gas distribution department of the Western States Gas & Electric Company, which company supplies gas and electricity in the city of Stockton and vicinity, in the State of California.

For some two years previous to the commencement of the work this company had in mind the possibility of doing a considerable gas business with the factory, particularly in view of the large consumption of gasoline and fuel oil which they knew existed, both for the testing of internal combustion engines and for certain manufacturing and heating processes incidental to the work of the factory. The gas company had not only in mind converting this particular usage of fuel to gas, but they also considered that the heating of the factory buildings could well be carried out by an all-gas system in place of a miscellaneous collection of wood, coal and coke stoves which were then employed.

Fuels That Were Superseded

Considering an undertaking of the proposed nature, one must first bear in mind the particular conditions prevailing, not only in the buildings themselves and their layout, but the application and cost of the fuels to be superseded.

The factory of the Holt Manufacturing Company at Stockton consists principally of buildings of corrugated iron on wood framework, some of the floors being of wood, most of the ceiling being non-existent, the roof only forming the radiating surface overhead, and in the majority of the buildings a considerable amount of inflammable material is either present or is embodied in the construction of the buildings.



75-HP. CATERPILLAR TRACTOR COMPLETE AS USED ON ALL ALLIED FRONTS FOR TANKS AND GUN HAULAGE

The factory extends over a number of blocks and the various buildings do not present any uniformity of design, so that in the dimensions which appear hereafter only a general average can be given which may be considered on the small side.

In comparison of cost with Eastern conditions, one must bear in mind that although the temperature differs between the inside and the outside of the buildings, it is never very great, and seldom does the thermometer descend to the freezing point of water, yet the amount of radiation is very high, because there is only a single thickness of material, either plain corrugated iron or that material amalgamated with a preparation of asbestos paper, between the heated air and the colder air.

Principal Product a Gas-Propelled Tractor

The principal product of the Holt Manufacturing

FIG. 1--VIEW SHOWS TEST ROOM IN ONE SIDE OF MANIFOLD

FIG. 1A--VIEW SHOWS ASSEMBLY ROOM IN OTHER SIDE OF MANIFOLD

Company is the gasoline-propelled caterpillar tractor, and of secondary importance the harvesting machine. In the production of both of these pieces of apparatus a gasoline engine is employed. Just previous to the adoption of gas in this factory the amount of low quality gasoline, or distillate, as it is termed in California, consumed per diem for the purpose of testing and running in new engines amounted to an average of 1,200 gal. per day when ten engines were running concurrently. The cost of this fuel delivered at the factory was 10 cents per gallon. The gas company's engineers concluded that if they could show a saving in this department alone it would give them an initial success which might lead to further business, and with the consent of the Holt Manufacturing Company a number of tests were carried out with an engine using various types of fuels, including gas, in order to obtain some definite data and to enable an estimate to be made of the probable saving that would be effected by the adoption of gas. An engine of 75 hp. nominal rating, developing 90 hp. with gasoline, was chosen for this purpose, and when using liquid fuel various types of the best-known carburetors were used so that there could be no question with regard to the gasoline figures.

Getting the Gas "Idea" Sold

When the tests with city gas were carried out, equal care was taken and no less than three different meters were installed and the mixing apparatus was modified from time to time, starting with a simple "Y" branch with adjusting cocks and finishing up with a concentric mixing cock of special design which was developed as the result of an examination of the exhaust gases coming from the engine. The conclusions drawn from the results of these tests were that with city gas supplied to the Holt company at an equivalent of 50 cents per 1,000 cu. ft., a saving of cost as against distillate at the before-mentioned figure, and at the quantity then being consumed would be 33 per cent. Upon this conclusion being communicated to the Holt Manufacturing Company, the gas company forthwith made a proposition to the Holt Manufacturing Company along the following lines: That they would run a 10-in. main to the building where the engines were being tested at their own expense and furnish eight 150 light type "A" meters, and would bear half of the cost of the installation of an internal ring main 10 in. in diameter throughout the greater part of its length, the loop being completed in 6-in. main. The Holt Manufacturing Company accepted this offer and the work was put in hand immediately. Fig. 1 and 1A show the installation of this main along the wall of the engine testing room, 2-in. connections being welded into the manifold at various points adjacent to the engine stands. The whole of the manifold work is welded by the oxy-acetylene process, the pipes themselves being about ½ in. thick. Fig. 2 shows the arrangement of seven of the large gas meters arranged into two vertical banks being cross-connected from the 10-in. rising mains through 6-in. connecting pieces and valves, which are all welded into the risers. It will be noticed that the vertical height of this installation is about 35 ft., it being necessary to carry out the work in this manner by reason of the absence of space in any other direction. Suitable manometer gauges are connected on to the system at various points, and these show an average gas pressure of 4 in. of water head, which is not appreciably effected by the demand of the engines.

Sources of Waste

During the time in which the installation work was being carried out, an extension of the testing shop was also going on so that at the time of completion there were fifteen test stands for carrying engines running on load on one side of the partition on which the 10-in. manifold is fitted, while on the other side of the partition where the 6-in. manifold runs there are fifteen further connections for providing gas for running engines light.

Gas-mixing valves were made by the Holt company to the particulars developed in testing, and the first few weeks gas consumption under the new system immediately showed the large saving which was being effected by the change over to city gas. Daily readings were taken of the meters, and after the first month of working it was found that a 50 per cent saving in cost had resulted, thus greatly exceeding the original estimate.

Considering for a moment the reason for this, we may look to the sources of waste which were previously

existent and which had been eliminated by the adoption of gas.

First, when engines were working as these were, on varying load driving air compressors and electric generators for the supply of a factory, the gasoline carburetors usually to be found in a test shop of this nature did not function to the best advantage, and the attendants did not give particular care to the fine adjustments which are necessary to give the best results. Further, during considerable periods of time these engines are liable to run very lightly loaded and excess of fuel supply passes to them under these conditions.

Digressing for a moment, in the particular work on hand this waste of fuel was causing a great deal of trouble by reason of the deposit of carbon in the engine cylinders which resulted. This deposit has been almost entirely eliminated since the adoption of gas.

Second, by reason of the type of mixing valve employed, the correct proportions of gas and air are maintained all the time, and it is only possible for the operator to make a small enrichment of the mixture, which becomes necessary in certain engines where leakage of air results from parts not fitting very tightly when they are new.

A short description of the mixing device will be of interest. This consists of a barrel cock 2 in. nominal diameter of outlet, having a restriction in the center 1½ in. diameter. Into the throat projects a gas pipe 33/64 in. internal diameter controlled by a hole in the barrel of the cock which simultaneously controls ten circular air ports, each 9/16 in. diameter. Under working conditions, the depression in the throat which acts upon the gas orifice varies from 2 in. of mercury column at 470 engine revolutions per minute to 3¼ in. of mercury head at 600 revolutions per minute. These proportions have been found to give good all around results in working, and enable the engine to run at no load equally well as at full load. This is a most important point in using fuel when variable compression results from throttling the engine, and unless the sizes and shapes of the ports are correct, difficulty will occur with the engine as soon as power demands fall off.

In the installation in question, the engines on test are coupled up to a main shaft driving four 150-hp. air compressors and one 100 hp. electric generator, and the power demands are continually varying so that when gasoline was used clouds of smoke periodically issued from the engine exhaust pipes, showing faulty combustion. Tests made in a similar way with city gas have not given any of these signs.

Tests are as follows with four-cylinder, 7½-in. bore x 8-in. stroke, nominal revolutions 550 per minute:

FULL LOAD—CITY GAS, 650 B.T.U.

Revolutions per Minute	B.-hp. Developed	Gas Consumption per Hour	Cu. Ft. per Minute and B.t.u.	Cu. Ft. per B.-hp. Hour	B.t.u. per B.-hp. Hour
570	75.6	1,710	28.5 18,500	22.4	14,500
540	71.5	1,590	26.5 17,200	22.2	14,400
500	71.0	1,630	27.2 17,700	23.0	14,900
477	65.0	1,520	25.3 16,400	23.4	15,200

RED CROWN GASOLINE

Revolutions per Minute	B.-hp. Developed	Lb. Fuel per Hour	Lb. per B.-hp. Hour	B.t.u. per B.-hp. Hour
550	79.7	61	0.777	15,600
540	85.5	61	0.713	14,300
527	83.0	59	0.712	14,200
516	79.9	57	0.713	14,300

Below are figures of hourly, daily and monthly consumption of gas in the motor testing department, and all off of the 10-in. manifold.

TESTING AND ASSEMBLING DEPARTMENTS

In the testing department there are fifteen on these monster engines on test blocks running eighteen hours per day and thirty days per month:

1 75-hp. engine's average consumption, 1,600 cu. ft. gas per hour.
15 engines would consume 24,000 cu. ft. gas per hour.
18 hours per day, 432,000 cu. ft. gas per day.
30 days per month, 12,960,000 cu. ft. gas per month.

These engines are not developing full load on test blocks, but about 50 per cent load, which amounts to 6,480,000 cu. ft. monthly consumption, as shown on the actual meter readings.

Third, when liquid fuel was employed there was always a considerable loss from spillage, and this was not only a direct loss, but always a great cause of personal annoyance by reason of the fumes, and a very

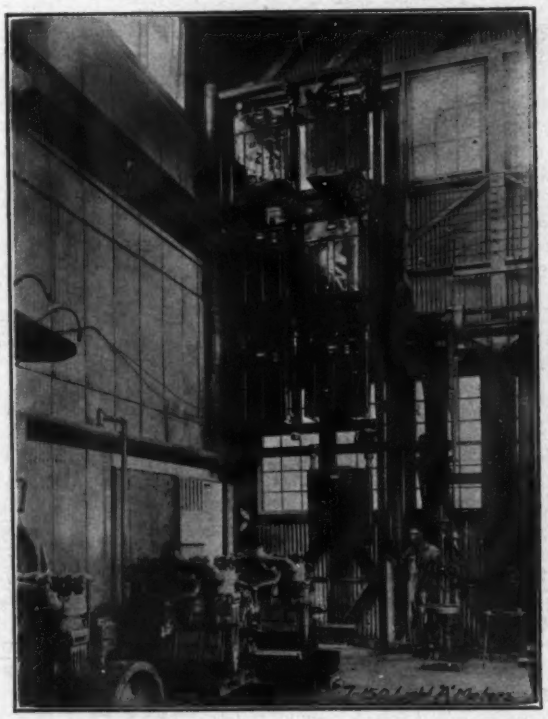


FIG. 2—150 LIGHT "A" METERS SUPPLYING MOTOR TEST AND ASSEMBLING DEPARTMENTS

great fire risk, which on more than one occasion had materialized into an actual conflagration.

Fumes Another Reason Why Gas Won Out

The fumes in the engine house were further accentuated by the ejection of large quantities of carbon monoxide in the exhaust gases, which at times became so bad that the men could not carry on their work without distress, and although systems of exhaust pipe had been installed, these did not prove satisfactory. At the present time, with the gas installation, the exhausts from the engines are all discharging directly into the testing room and no inconvenience is being felt.

The better combustion which is generally maintained with city gas as compared with liquid fuel in itself,

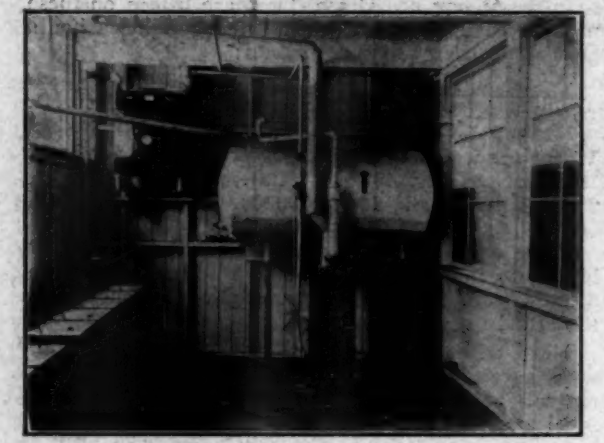


FIG. 3—200-GAL. WATER TANK WITH ONE NO. 300 MULTI-COIL HOFFMAN AUTOMATIC WATER HEATER ATTACHED

shows a very large saving which cannot directly be estimated.

The installation of gas for power purposes having proven so successful and surpassing original expectations, the way appeared clear for a further inroad into the business in the factory from the gas company's point of view, and attention was therefore turned to other possible sources of supply, primarily the care of the employees appeared to offer an important field. The Holt company had decided to put in new systems of washing appliances and shower baths for the men employed in the machine shop, harvester department and in the foundry.

The first installation consisted of a hot-water supply for about fifty hand basins, and in order to meet this demand, a 200-gal. tank with a No. 300 Multi-coil Hoffman Automatic Heater attached was supplied, as shown in Fig. 3. As this factory continues working day and night, this appliance is in constant service, and has been working for about a year, giving entire satisfaction. An apparatus on a smaller scale was installed in the harvester construction department, where there are twenty wash basins, and the supply of hot water is provided here by an 80-gal. tank similar to the one previously referred to, but, of course, smaller. A 40-gal. installation is also fitted in the men's kitchen, where it supplies hot water for general use. The kitchen is further provided with one large size Lang gas range, which is used for cooking the lunches for about 500 of the

FIG. 4—SECTIONAL VIEW OF FOUNDRY BLOCK

employees of the works. The total number of men on the roll is over 2,000, but as many of them live quite near the factory the cooking and washing facilities are not so great as they would be in many of the factories that are differently situated.

The Foundry Installations

A large proportion of the production from the Holt company's works takes place in the foundry, as iron castings are used to a very great extent in the construction of agricultural machinery. It is, therefore, only natural that the foundry men form a considerable proportion of the employees, and on account of the nature of their work cleansing facilities have been installed, which form a record in magnitude for any "all-gas installation" on the Pacific Coast. The water which is heated for this purpose is used for supplying twenty-two shower baths and thirty wash basins, the source of supply being a 500-gal. tank with a battery of two No. 300 Hoffman Multi-coil heaters attached, which is shown in Fig. 4. Another record for Pacific Coast gas appliances is installed in the motor assembly department, where the question of cleaning engine castings is a most vital one. Ever since the Holt company commenced building engines for the British War Department, great trouble had been experienced by reason of the presence of foundry sand on the finished parts. Various methods had been tried, such as sand blasting and hand cleaning, to get rid of this trouble, but the sand continually worked out of the pores of the metal and became detached and mixed with the lubricating oil. Finally a system of dripping in a hot bath was decided upon, and all materials are treated by this installation in order to clean them.

The installation itself consists of four large vats, each containing 1,000 gal. of solution of caustic soda in water. The water in these vats is heated by steam, which is generated in a 22-hp. and a 10-hp. Kane automatic gas-fired boiler. Castings of considerable size are being immersed in these vats all the time, so that the quantity of heat required to keep the water hot is of no small order.

Heating the Pattern Shop

The pattern shop is heated by an installation of the

Pacific system of heating and ventilating, as manufactured by the firm of C. H. Sharp Manufacturing Company, of Los Angeles. This shop has a cubical measurement equaling 110,000 cu. ft., and a total glass area of 4,000 sq. ft. of which is a single window glass exposure (Fig. 5).

With commendable consideration, which has characterized the Holt company in the many provisions made by them for the welfare and comfort of their employees, the feature of ventilating by means of introducing fresh, cool air in the summer was deemed essential in combination with the heating system, and which led to the Pacific system being adopted.

The No. 4 Pacific system consists of two-unit heating surfaces mounted on a single base, or chamber, located at the bottom, and forming part of each unit is the combustion chamber, in which is located a series of superheated gas burners.

Connecting with the base is a Multiblade fan (motor driven) of a rated capacity of 100,000 cu. ft. per hour. The motor being set in operation—together with the gas burners—the air is drawn down through a duct leading in from the outside air and connecting with the top of each heating surface, and in passing over said heating surface is heated to the desired temperature. Continuing in its downward course, the air is drawn into the base and fan, respectively, and distributed by means of a duct, the outlet of which is directed to the point desired for the proper distribution of heated air throughout the building.

To ensure the closest economy of operation, a "return air duct" leads from an open screen near the floor of building and connecting at its highest point by means of a by-pass damper into the fresh-air duct leading into the heating surface.

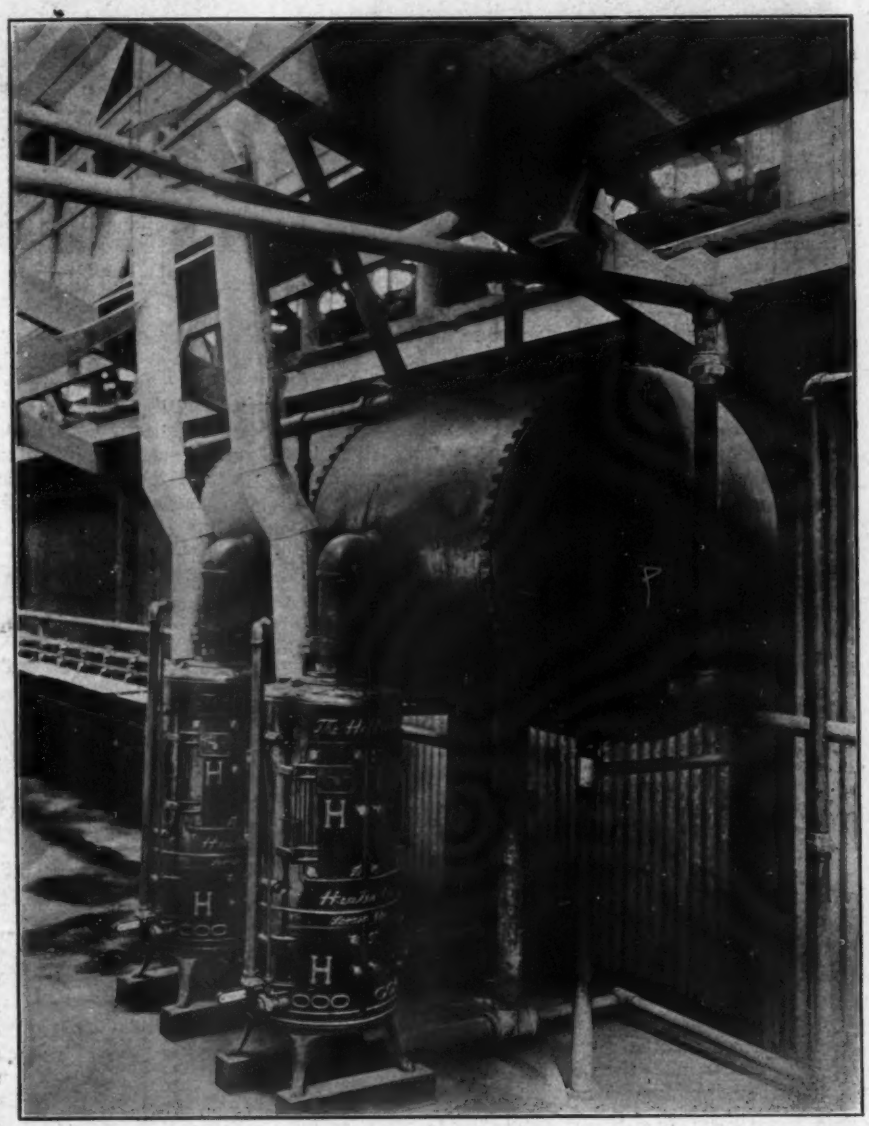
Heat in Winter and Cool Air in Summer

One hour prior to the workmen entering the shop the heaters are set in operation and the by-pass set at a point to permit only the air from the shop being drawn into the heater, and in this manner the reheating of the air contained within the shop effects the rapid heating of walls and other surfaces. On the temperature being raised to a comfortable degree, the by-pass is thrown over, permitting only the outside air being drawn into the heating surface and distributed throughout the building. By this means the reheated air is dispelled and a fresh and agreeable condition maintained throughout the day.

By closing off the gas supply to the burners an equal distribution of cool air is effected during the summer months throughout the shop.

The advantages of such a system over the old stove method, with its attending fire risks, are all apparent, and with the increasing frequency of which installations are made of such size and of such remarkable efficiency, one may well stop to consider the wonderful strides that have taken place in a comparatively new industry and the brilliant future that beckons to its attention the manufacturers of gas fuel.

The machine shop covers an entire block, which



THIS INSTALLATION CONSTITUTES THE BIGGEST GAS-FIRED HOT-WATER HEATING INSTALLATION ON THE PACIFIC COAST

FIG. 5—VIEW GIVES AN EXCELLENT IDEA OF PROPORTION OF GLASS EXPOSURE

measures more than 300 ft. sq., and having a pointed roof of the extended "A" type in several bays, and with window lights both in the roof and all around the sides (Fig. 6 shows one bay). This shop was previously heated by a number of cast-iron stoves, which have been entirely abolished and gas radiators of the center fire-box type, made of cast iron but otherwise similar to the Armco iron radiators made by the George M. Clark Company, of Chicago, have been installed. The cubical contents of this shop is about two and one-half million cubic feet.

The adjoining block, which is also heated in a similar manner, is only half the size, being but half a block wide, but the harvester assembly, which is also heated by gas radiators, is a very much larger block than either of the two previous ones. Not only does this block measure 572 ft. long x 314 ft. wide, but it has a very high roof, which is necessitated by reason of the dimensions of the harvesting machines which are built here. The cubical contents of this block is approximately 5,000,000 cu. ft.

Big Gas Consumption Required for Heating Buildings

During the month of January, 1918, the radiators were all working and the total consumption of gas was 1,500,000 cu. ft. for this service. The initial cost of the heaters represented here, excluding the cost of the piping, was rather more than $6,000. In addition to heating, further appliances have been provided where gas is now burned with great success, not the least important being seven American gas babbitt melting furnaces of various sizes. The babbitt was previously melted on coke stoves, and some difficulty was experienced in keeping the temperature of the metal exactly right.

The Government inspectors of the factory have always paid most particular attention to the babbitted bearings, and it is most important that the metal be poured at the right temperature, as many bearings have been condemned for failure to observe this. With the gas heating system no difficulty has been experienced in regard to the regulation of the temperature, as the gas firing is admirably adapted for this work.

A large number of tubular radiators are constructed in the factory for use on caterpillar tractors and harvesters, and these are now being soldered by means of the small Johnson atmosphere blasting torch, and in addition a number of blast torches of all sizes are located throughout the factory; also there are a number of rivet heaters and bench forges and various other appliances distributed throughout the factory.

These miscellaneous appliances consume 2,500,000 cu. ft. of gas per month, and this will increase as others are added, the latest addition to the gas-fired plant being one Chicago flexible shaft drop hammer forge, which is used for cyaniding, and supplements a small muffle furnace which has been employed for some little time on this work.

The Western States Gas & Electric Company's engineer has made further proposals with regard to the substitution of gas for oil in certain directions which will not only increase the gas business, but will help out the Government in its endeavors to conserve the oil supply. Noteworthy amongst the few remaining fuel users which are not at present gas-fired are the following: Four large case-hardening furnaces, sizes 6 x 12 ft. each; six large core ovens, sizes 7 x 12 ft. each, and two brass-melting furnaces, etc. With this and further extension of gas supply in view, the Western States Gas & Electric Company has in contemplation the installation of a 6-in. high-pressure gas main direct to the factory, so that the maintenance of a suitable supply of gas can always be relied upon.

The analysis of the gas supplied is approximately as follows:

Constituents	Chemical Symbol	Per Cent by Volume
Heavy hydrocarbon	C_nH_{2n}	4.0
Marsh gas	CH_4	50.0
Hydrogen	H_2	15.0
Carbonic oxide	CO	7.4
Carbonic acid gas	CO_2	0.5
Oxygen	O_2	0.9
Residual nitrogen	N_2	22.2
Total		100.0

Specified gravity (air-1) calculated.....	0.652
Gross B.t.u.	0.693

3,000-Ft.-a-Month Consumer Raised to 10,500,000

Considering the fact that much money has been spent and many articles written on an all-gas kitchen, it seems a campaign on an all-gas factory, insofar as fuels are concerned, would be worth while.

In this factory a little more than a year ago the gas bill amounted to $3.25 per month, representing a little more than 3,000 cu. ft. of gas. The January consumption of this year was approximately 10,500,000 cu. ft. This business was obtained on our regular rates, effective as follows:

First 25,000 cu. ft. gas.....	$1.00 per 1,000
Second 25,000 cu. ft. gas.....	0.90 per 1,000
Third 25,000 cu. ft. gas.....	0.80 per 1,000
Fourth 25,000 cu. ft. gas.....	0.70 per 1,000
Fifth 25,000 cu. ft. gas.....	0.60 per 1,000
All over 125,000 cu. ft. gas....	0.55 per 1,000

Discount 5 cents per 1,000 cu. ft. if paid on or before the tenth of the month.

Cost of Living

U. S. Bureau of Labor Statistics estimates that cost of food increased 21 per cent between Feb. 15, 1917, and Feb. 15, 1918; the increase for one month, from Jan. 15 to Feb. 15, was 1 per cent; increase of food cost from January, 1914, to January, 1917, was 55 per cent. Proportion of expenditure for food to total expenditure in average family budget ranges from 40 to 50 per cent.

With More Coal Fields Shut Down Paris Turns to Gas to Conserve the Part of Its Coal Supply That Remains

Estimated That a Million and a Half Tons of Coal Would Be Saved if All France Used Gas for Cooking—A Monetary Saving Too

By FRANCIS MILTOUN

The new regime whereby the price of gas has in some cases been doubled, and in others has been increased 50 per cent, has been in force a month in Paris. Correspondingly gas bills have decreased. This seems an anomaly; but when one considers the time of the year it is not so strange, and still less so when one considers also that gas is not the usual cooking fuel of the poor, who for the most part are not near enough to a gas jet to smell it should it inadvertently be left open.

Because of the great ready and waiting market the Paris gas companies, so far as trade and war conditions will allow, are making strenuous efforts to popularize the use of gas for cooking and heating for the winter to come; rather it is the municipality of Paris, which, virtually in partnership with the company, is doing so, in the belief that possibly the difficulties of the ravitaillement of the capital in coal next winter will be more difficult than ever before. The side light on this phase of the question is that the late German advance has practically shut down the few northern French coal fields left outside the zone of advance and still being worked in these strenuous days.

Conservation in Gas

Admitting the possible shortage of coal and the absolute necessity of making provision for gas cooking and heating as far as already laid mains will allow, the question becomes one simply of ways, and means. It is quite improbable, though, that additional connections can be granted; that there are any spare meters waiting to be installed; that there is even many running feet of lead or iron pipe which are in stock anywhere in France which can be used for new embranchments or connections. The problem is looming more and more formidable as those who know really see it. Meantime a campaign in the public press—of almost infantile, rudimentary species—is being conducted in an attempt to install in the public mind the virtues of cleanly piped-in gas as compared

FIG. 6—SECTIONAL VIEW OF MACHINE SHOP

with grimy coal and dusty cinders, requiring much labor of handling and less efficient rendering of service.

Most articles of a popular nature one reads in the French newspaper and periodical press are inspired. Those tending to popularize the use of gas at some day as near as may be in the future talk the language of the people, and one suspects that the gas companies, or those who have accessories to sell, pay the bills. There may be a question as to the ethics of this, but there is no question as to the efficacy of the method of driving facts home. Follows the latest argument I have seen in print here on the virtues of gas. The figures given represent the modest man's home and ruling prices, at least prices as they hope to find them next winter:

The family cook stove is supposed to burn—

3.6 metric tons of coal at $30 per ton = $108, producing 28,800,000 calories.

900 cubic meters of gas at $0.06 per meter = $54, producing 4,230,000 calories.

The frightfulness of it all is in the figure of calories produced and those actually used and those wasted. A German invasion horror is no more vivid. And, again, the famous *pot-au-feu* of the French family and a *poule-au-pot* on Sunday in one case is cooked for an entire year for $54 and the other for $108, the 100 per cent advantage being in the favor of gas. It is such primary school problems as this, simply expressed, that form the only method of propaganda of a new idea in France combatting the traditions of a former generation.

Total Coal Consumption

France entire is estimated as burning 9 million tons of coal in its cook stoves—producing 72 trillions of calories; whereas but 7 per cent actually go to keep the soup pot boiling, the rest going up the chimney. The equivalent to produce the same results may be arrived at with 2¼ billions of cubic meters of gas, which will be produced by 7½ million tons of gas coal, an economy of a million and a half tons to begin with, besides the by-products, to-day the most profitable of all distillates of the black diamond, the cash saving direct being estimated at the equivalent of $30,000,000 per annum, with additional profits to be derived from by-products of nearly $200,000,000 additional per year.

The above is the little problem worked out in plain figures and being quoted throughout the press of the length and breadth of the land. The peasant in the fields may take little heed of this—it may matter very little whether he does or not; it was not applicable to him in the first place—but it applies forcibly to the town dwellers, those who can as well draw their cooking and heating combustible from the 700-odd mains leading from as many widely distributed gas works of the country as by shoveling coal and raking out cinders. And when it is done, not counting the saving in labor over the complicated process of stoking a coal stove, there is a tidy little balance in the individual purses of the French of nearly a quarter of a billion dollars a year—say 100 francs ($20) for each family, equaling 500 pound loaves of bread at ruling prices, which may be anywhere from a three to six months' supply of the staff of life for the average family. Gas properly exploited may yet be made to feed France, though it has not hitherto been shown up in that light.

Tax on Gas Consumption

A curious phase of French fiscal legislation passed lightly by just as the new luxury taxes were being put into operation on April 15. To-day one pays a 10 per cent supplementary tax on a cake of soap that costs 20 cents, on an overcoat that costs more than $20, on a theater ticket that costs more than $1, on a restaurant meal that is served in an establishment where the habitual client is used to paying $1 or more—on all manner of necessities classed as luxuries, as so many of our necessities really are. It was proposed also to tax gas subscribers 10 per cent on the amount of their monthly bills, as being a privileged class of humanity who could afford to pay. Better judgment prevailed and a sufficient number of political economists were marshaled at the sitting of the Parliamentary committee which had the classification of these new "luxury-taxed" objects and accessories of daily life in hand to squelch any possibility of such a retrograde movement in the true principles of taxation of a people, whether for war or peace demands. Revenue there must be in these days of war, and produced from all possible sources; but the conditions of life must not be made so onerous that a standard once achieved is lowered, and thus it came to be that gas and electricity escaped; but it was a narrow shave.

Comment has been made before on the economies brought about last year in gas consumption by the adoption of the "summer-hour" regime. Normally it was supposed to have at least equaled 15 per cent, and in many cases considerably more. This present year, though the regime has been in operation a little less than two months to date, with a more ample experience to go on, it is proving up even more satisfactorily.

The Paris gas companies estimate that an economy of 3,500,000 cu. ft. of gas per day and of 500 tons of coal is already apparent, and we are yet six weeks away from the longest day. There mere superficial bluff of setting the clock forward an hour has done what the psychologists and the traditionalists had said it never could do and that we should all be turned topsy-turvy in the process.

These are only side lights thrown on the screen by the proximity of Paris to the flashes of the big guns on the front; doubtless they will never be apparent in America. But should they loom up even in shadow, it may well be taken for granted that the companies and the public alike will get together on a give-and-take policy which shall make for closer relations and better service and co-operation. These are elements which never enter into one's dealings with a public service corporation abroad. Franchises here are usually things which have been brought into being with a set of by-laws and rules and regulations which primarily are compiled to be lived up to, but which seldom are. If the American manufacturer of appliances and accessories can break into the French market, using the gas as supplied by the companies already firmly entrenched, there is a big field to be exploited—after first having got a rather naive public to scrap most of his present machinery of modern life, which will be difficult.

St. Louis Company's Bread Cast Upon the Waters is Returned Many Fold

Effort to Help Government Brings 35,000 Women to Company's Main Show Room, Hundreds of Feature Stores in National Periodicals and Local Newspapers Have Given Publicity to Company and to Gas and Hundreds of Women of the Best Type Are Going Out of Their Way to Boost Laclede

By LOUIS RESNICK

About a year ago a fluffy little silk-clad seed blew into the office of the Laclede Gas Light Company, of St. Louis, and landed at the desk of John J. Burns, superintendent of the commercial department. That gentleman being a good business man, but a poor farmer, took the seed to Charles L. Holman, president of the Laclede company and vice-president of the new American Gas Association. Mr. Holman, a member of the school of gas men who believe that it is the duty of public utilities to render public service in any way possible, not only ordered the seed planted, but made provision for its cultivation until the plant had grown hardy and self-supporting.

And now, the Laclede Gas Light Company is reaping a harvest worth millions of dollars—thanks to Mr. Holman's policy and to Mr. Burns' ability to make a hundred blades of grass grow where none grew before. Their crop includes:

1. Enough goodwill to last at least a generation.

2. More high-grade publicity than hundreds of dollars' worth of paid advertising could produce; publicity, not only for the company, but for *gas*.

3. The knowledge that they have done a great big "bit" to help win the war and to better human life during and even after the war.

The seed that led to this crop was —a young woman, one of a type of which there are thousands in the United States. Before the United States entered the world war against the Hun she was a member of the Equal Suffrage League of St. Louis. On the day she entered the gas company's office she was a member of the Women's Central Committee on Food Conservation. Mr. Hoover had just been designated as food boss of the United States. Without even notifying him of the fact a group of St. Louis women appointed themselves his assistants. How well they filled their self-appointed tasks may be understood from the fact that they have since been officially taken into the fold of the Federal Food Administration as a definite part of that organization.

However much as they deserve commendation, the purpose of this story is not to describe the worthy accomplishments of these patriotic women, but to tell the gas manager that he, too, can plant the type of seed we are going to describe and reap a harvest such as did the Laclede company. The cost of the entire process of raising this crop is less than the cost of a single page of magazine advertising.

In a nutshell, here is what the Laclede Gas Light Company did, and what it is enjoying as a result: For an entire year the gas company co-operated with the patriotic women of St. Louis in the establishment and maintenance of community kitchens, community canneries, traveling canning exhibits, a food conservation show, a visiting housekeepers service and a "Hoover store and lunch room." The company co-operated to the extent of donating the services of

ATTRACTIVE WINDOW DISPLAY OF LACLEDE GAS LIGHT COMPANY DURING CONSERVATION CAMPAIGN

Mr. Burns, loaning the women a number of gas appliances, giving them the use of the basement and innumerable other favors. In return for this co-operation Mr. Holman and Mr. Burns are happy in the knowledge:

That 35,000 women visited the gas company's main show room in order to learn the cold pack method of canning from representatives of the Food Administration;

That 66,000 quarts of foodstuffs were canned by the housewives of St. Louis in the basement of the gas company's building;

That hundreds of news and feature stories have appeared in the newspapers of St. Louis and magazines, such as the *Literary Digest*, *Cosmopolitan*, etc., regarding America's first community cannery, and that practically all of them mentioned the part the Laclede Gas Light Company played in the establishment of the cannery;

That hundreds of the best type of women are now going out of their way in order to "boost" the gas company in appreciation of the favors

CORNER OF COMMUNITY CANNERY STOREROOM IN GAS COMPANY'S BASEMENT

done them and that tens of thousands of other women have become wedded to the "gas-for-all-purposes" cause;

That through the co-operation of the gas company at least $12,000,000 worth of foodstuffs which hitherto had gone into the garbage can or incinerator have been utilized in St. Louis, while a similar amount of food was made available for our troops and our Allies;

That through the aid of the gas company much starvation and suffering is being averted in the poorest sections of the city by the community canneries, community kitchens, etc.

Figures Not Supplied by Gas Company

All the figures and, in fact, all the statements regarding the gas company's activities in this matter come originally from the women who are to-day part of the Food Administration. The gas company officials pleaded guilty to all the charges in the indictment written by their women friends.

Here is a characteristic statement by Mrs. E. T. Senseney, chairman of the Division of Education and Conservation of the Women's Central Committee on Food Conservation, U. S. Food Administration Committee for St. Louis:

"Without the aid of the Laclede Gas Light Company I doubt very much whether we or any other group of women could have carried out successfully any of the things we have done."

Here is a characteristic statement of another sort from Mrs. E. G. Meyer, who was in charge of the cannery operated by the Committee on Food Conservation in the gas company basement last year. Mrs. Meyer has been asked by the writer, whom she did not know as the representative of a gas publication, why electric heat could not be used as well as gas for canning.

"Electricity is too slow," she answered.

"How about the various oil stoves so widely advertised for canning purposes?" the writer asked.

"Oh, they are all right *if you get gas*," she answered.

Gas Featured Exclusively

The Laclede Gas Company has aroused such an interest in canning throughout Missouri, that the subject is now being made the motif of advertising by every sort of commercial house, ranging from department stores to banks. In all this publicity, in all the canning demonstrations, in every phase of the year-long canning campaign *gas* and *gas appliances* have been featured exclusively.

The gas company has made no effort to learn to what extent the consumption of gas was increased or how the sale of gas appliances was stimulated by the numerous canning campaigns, for such possibilities were not considered by Mr. Holman when he agreed to aid the Committee on Food Conservation. He was actuated solely by the desire to help win the war.

Listen again to what Mrs. Meyer says:

"I am confident that every woman and every man—lots of men came to our demonstrations in the gas company's basement who put up one quart of fruit or vegetables there under our directions—went home and put up dozens and dozens of quarts of food. The method is so simple and the expense so small that the poorest and busiest women can apply it."

In a word, the cold-pack method of canning consists of three operations: a cold water bath, a hot water bath and two hours of sterilization. A common laundry stove and an ordinary wash boiler are the only appliances necessary. The average housewife has these.

The cold-pack method was devised by Professor Benson, of the College of Agriculture of the University of Illinois. The method met such great favor in St. Louis, where it was first demonstrated, that the Food Administration has induced Professor Benson to tour the country in its interests. The women of St. Louis were assisted by A. R. Zoll, who had been sent from Washington by the U. S. Department of Agriculture.

Profits Realized Used to Good Advantage by Association

This method is now being demonstrated in St. Louis at the central community cannery in the basement of the gas company's building, in

A. R. ZOLL, OF THE FEDERAL FUEL ADMINISTRATION, "DOING HIS BIT" IN THE COMMUNITY CANNERY AT GAS COMPANY

ADVERTISING POSTERS UNNECESSARY WITH EFFICIENT GAS RANGE PLACED IN FULL VIEW OF THOSE WHO ATTEND DEMONSTRATION

four other community canneries located at the four big produce markets, at the first community kitchen in the United States, in thirteen public schools equipped with domestic science departments, in department stores and innumerable other places.

The central cannery last year was in operation every week day from June 1 to Oct. 10, and a similar schedule will be followed this year. The smaller canneries operate only on Tuesdays, Thursdays and Saturdays, the market days. Twenty-five members of the Committee on Food Conservation gave their entire time to the campaign last year. They were assisted by the thousands of women who came to the demonstrations. At the close of each demonstration the audience was invited to come back the next day and help peel, pack or wash fruits and vegetables. Almost invariably they were only too glad for this opportunity to show their appreciation.

The housewives of the city came to the central cannery not only to learn, but actually to put up foodstuffs for the winter months. For every twelve jars that a woman put up at the community canneries she was required to leave two. At the close of the season 11,000 jars of fruits and vegetables were stored in the basement of the Laclede Gas Company. This was a sixth of the amount actually canned in the home office of the company.

The 11,000 quarts of food were sold for $3,500 at the close of the season, and after all expenses of the canneries had been paid the women found $1,000 on their hands. With this and the aid of the gas company the Committee on Food Conservation put on a Food Show at the Coliseum, which was highly successful, despite the fact that the street car men of St. Louis began a general strike on the opening night of the show.

How the Company Made Enterprise Possible

To make the central community cannery possible the gas company donated the use of its basement show room, a large storage room, eight gas ranges, two steamers and even the gas that was used in the demonstrations. For each of the branch canneries the company loaned the women four gas stoves and an instantaneous heater.

But the company did not stop there. When the women thought they could accomplish much by a food conservation show, President Holman gave them the services of his commercial manager. Mr. Burns showed his mettle as a promoter to such an extent that at the close of the food show the committee still not only had its thousand dollars, but several thousand dollars besides. With this was started the community kitchen, a traveling canteen and the numerous branch community canneries.

Though by this time the women felt that they had brought their lesson of food conservation home to a third of the population of St. Louis, they were not satisfied. They realized that there is a class of women who would rather go to a vaudeville show than a canning demonstration. They decided to bring the mountain to Mohammed. Again, with the aid

(*Continued on page* 628.)

NOTE SIMPLE EQUIPMENT NECESSARY FOR "COLD-PACK" CANNING—A COMMON WASH BOILER AND AN ORDINARY LAUNDRY STOVE

AMERICAN GAS ENGINEERING JOURNAL

FIFTY-NINTH YEAR

Published Weekly by
AMERICAN GAS LIGHT JOURNAL, INC.
42 Pine Street, New York, N. Y.

ELBERT P. CALLENDER, *President*
STANTON G. KRAKE, *Vice-President*
FREDERICK A. SOUTHWORTH, *Secy-Treas.*

EUGENE C. MILES, *Editor*

Subscription $3.00 per year, including postage in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines.
In Canada, $4.00 Foreign, $5.00
Single Copies, 10 Cents.

WESTERN MANAGER
E. B. FRITZ

CHICAGO OFFICE
537 So. Dearborn St.

Entered at the Post Office, New York City, as Second Class Matter.

CONTENTS

RAISE CONSUMPTION OF ONE CUSTOMER FROM 3,000 CU. FT. A MONTH TO 10,000,000 CU. FT. IN LITTLE MORE THAN A YEAR. BY D. E. WIDDERSHEIM 609

WITH MORE COAL FIELDS SHUT DOWN PARIS TURNS TO GAS TO CONSERVE THE PART OF ITS COAL SUPPLY THAT REMAINS. BY FRANCIS MILTOUN 615

MERCHANDISING GAS 617

ST. LOUIS COMPANY'S BREAD CAST UPON THE WATERS IS RETURNED MANY FOLD. BY LOUIS FESNICK 617

EDITORIALS 620

HOW THE GAS COMPANIES ARE HELPING THE NATION 624

NEWS OF THE GAS INDUSTRY 625

PERSONAL NOTES 632

CONSTRUCTION NOTES—PAGE 18 OF ADVERTISING SECTION

After the War

It is the fashion nowadays for pessimists to picture dire happenings to capital after the war. They point to Russia as an illustration, and thereby tacitly confess the shallowness of their theory.

There can be no doubt that the lot of the worker is going to be vastly improved, not only that of the muscular person in overalls, but that of the salaried worker as well. Human beings in this and other countries are going to get more of the better things of life for themselves and their children from their labor. But capital will not be destroyed or even threatened. Rather, it will be benefited.

In the past, capital has had to go to extreme lengths sometimes even to get the returns that the laws of the land, established by the people of the land, lay down as fair and reasonable.

Even bribery had to be resorted to in the past to enable capital to get the opportunity to earn returns. Such things in the general sense have passed.

But capital's wastage has not become a thing of yesterday. The laws of a community may say that capital is entitled to an eight per cent return. The investors may assert their undertaking is not making that return. There would seem to be a very simple question to be settled—merely a question of figures. Either the investor's books would support their contentions or they would give it the lie.

There would not seem to be a necessity of interminable investigation, prolonged hearings. There should not be the necessity of enlisting public endorsement or combatting prejudice. The public has set down its views when it conceded the justice of the per cent of return. If the present owners are not earning that amount they should not be penalized because someone, years ago, made a fortune by combining business with politics, which fortune, by the way, has been withdrawn from the present enterprise.

Undoubtedly, things have been bad in the past in all industries. But they were bad because the viewpoint at the time, judged from present standards, was bad. Undoubtedly more money has had to be put into utilities in the aggregate than would have been the case had there not been times when bribes had to be paid to secure franchises, and blackmail competition had to be bought off to maintain that monopoly without which the utility cannot best serve. But the public was as much responsible for these abuses as were the capitalists; more so, in fact.

Capital will not be subjected to the expenses it is now subjected to, to obtain a reasonable return. The termination of the war will find us generally a better educated and clearer thinking people.

We will not destroy capital overnight, for we will know that its security is necessary to our existence. It will be more certain than ever before of its reasonable

return. The extra dollars we will put in our own pockets will come from the elimination of wastage, for we will no longer tolerate expensive litigation to solve problems that can be promptly solved in inexpensive consultations and confirmations, and in similar needless expenses. We will not fall such ready victims to buncombe and poses as we have in the past. And therein will we profit materially.

The Hundred and Ninth Volume

With this, the final, issue of the hundred and eighth volume, the AMERICAN GAS ENGINEERING JOURNAL, formerly the American Gas Light Journal, completes its fifty-ninth year of existence. With the forthcoming hundred and ninth volume, it enters its sixtieth year.

One factor alone has made possible the long history of this second oldest gas journal—the oldest in the United States—published in the English language. That factor has been the steadfast friendship and active cooperation of countless gas men.

It has been asserted that the JOURNAL could publish nothing worth while and yet maintain a paid circulation that would make it possible for it to struggle along. This may be so, but its publishers do not want to impose on friendship. Further, they feel deeply their responsibility towards the field which has made possible a history of which any technical publication may justly feel proud.

The period of high prices through which the gas industry is passing has also effected the publishing business, perhaps even more severely than the average gas company. Many have made curtailments to meet the contingency; have cut down either in quantity or quality. The JOURNAL has given its subscribers more than ever before.

In a publication of a briefer history, following such a course might have required courage. With the JOURNAL the decision to do so merely required the exercise of common sense. It has precedent to work upon—it passed successfully through the trials of the Civil War and subsequent economic disturbances. What it costs to-day to continue at a stronger pace than ever before will be compensated for amply when the clouds roll by. The JOURNAL is not a thing of but to-day and yesterday. It is an institution of the gas field, with a history that comes the nearest to approaching that of the field it serves, in the matter of years, than any other gas journal published in the Western Hemisphere. The JOURNAL can afford to increase its costs for a temporary period while its income remains practically stationary. It cannot, however, afford to fail to maintain the prestige its long history and accomplishments have built up for it, or to fail to serve its field with equal or greater efficiency than it has in the past.

In the volume that is closing, the number of new writers it has enlisted has been progressively greater than ever before. This is encouraging in that it is the JOURNAL's contention that, unless a large proportion of the information it publishes comes direct from those actually at work solving the industry's problems, it could never hope to provide the field with the character service that its needs require, and that it expects of it.

H. M. Riley and L. B. Wilson, Jr., possibly have contributed more in number of pages to this volume than any other single authors. Their Gas Appliance Testing Laboratory articles, which in the aggregate, it is hoped, will provide a complete appliance testing laboratory manual, were arranged for by the JOURNAL as a duty it owed its field, rather than with the expectation that devoting so large a space to such a subject would in any appreciable degree popularize the magazine. These articles are essentially technical, and, at the time their publication was undertaken, apparently years ahead of an anyways general demand.

In the due course of events, it would have been years before the average run of gas companies would be very interested in appliance testing laboratories. The keen appreciation of the need of high efficiencies in gas-consuming appliances, as a means of conserving gas that is now general, has been born of recent events. Before we were not truly "sold" on the conservation idea, except insofar as it was essential in enabling us to keep alive some branch of our business, that was subjected to dangerous competition, such as in lighting. But when we thought of conservation in regard to domestic water heating, cooking, etc., we were thinking altruistically. We were thinking of benefiting the consumer at a direct loss to ourselves, and with no compensating advantage that could be definitely measured or evaluated. We did think of improved appliance efficiencies, but not in general with the maximum enthusiasm.

To-day no one is more directly concerned in reducing the individual consumer's meter reading than the gas company. Consequently, there are few gas companies which are not searching intently for some means of making every cubic foot of gas sent out do its maximum work. And there are few who have not set their fingers upon appliances as the most promising point from which to attack the problem.

In arranging for these Gas Appliance Testing Laboratory articles we were frank in informing the authors that we thought they would be undertaking their extensive labors for the benefit of but a very few hundreds of our readers, and that the JOURNAL, in undertaking to devote the large proportion of its available space that such publication would involve, was in effect challenging the majority hundreds to believe that its contents had little interest to them, since they would find nothing of interest in the many pages devoted to these articles. But

the dentist does not refrain from drilling a hole in the sensitive tooth, nor the physician from prescribing for us bitter medicines because they know such measures will not necessarily increase our affection for them. So it was with the JOURNAL in regard to the Gas Appliance Testing Laboratory articles—a matter of duty. Sometime the gas field would need just such information. If it, at that time, should be immediately available, to be had by merely going to the files for certain back numbers of the JOURNAL, numerous costly gropings about, tentative plans and mistakes would be avoided.

But the reception of the series has been surprising. We have discovered a greater interest in appliance testing than we thought existed in the field. There has been a strong demand for back numbers containing this or that article of the series, numerous inquiries as to whether the authors planned to publish the information eventually in book form, and several new subscriptions entered merely for the purpose of being assured that no subsequent articles of the series would be missed.

Several articles of this series were published in the hundred and eighth volume, and more will be published in the hundred and ninth volume.

The JOURNAL does not believe any periodical is worth the paper it is printed on unless it has "vision"; the gift of seeing beyond the obvious, of soaring beyond the rut of routine affairs and carrying its readers with it. A mere news record does not suffice.

The man who accomplishes magnificent things does not usually appreciate their magnificence. They are merely matters of a day's work. He does not get the proper perspective, because immediately these magnificent things are accomplished, his mind must busy itself planning the next day's work. If this man is a gas man, the responsibility of revealing to him what he has done and pointing out to him its significance falls naturally upon the gas journals.

The accomplishment that, in its own estimation, most signalizes the hundred and eighth volume of the AMERICAN GAS ENGINEERING JOURNAL, was the manner in which it sensed the big thing the gas industry had done when it stepped into the breach where coal supplies failed last winter. All its contemporaries saw, apparently, were figures and interesting comparisons; and such matters can wait. They make good reading at any time, so why hurry, especially about getting them into print?

But the JOURNAL saw more: Huge plants built to capacities much larger than they could normally expect to utilize for years to come, heavily overburdened overnight, and only able to carry on because of high-priced superintendents shoveling coal and outraging all precedents in working hours; whole organizations forgetting rights and privileges, without thought of reward, sensing to the full the call to public service and loyally co-operating to insure the public against suffering and death; a great effort to sustain the National morale, and the dismal picture of what would ensue were the effort to fail; a tremendous capitalization in goodwill, such as millions spent in advertising and normal service could not expect to build up.

Such a story should be rushed into print with all haste. The public should be told how the gas companies had served it while it still shivered, and the story would get "home."

Those who understand journalism know that it is not easy to get the details for such a story out of men who are still wrestling with a huge problem, who are not assured yet that, despite all that has already been accomplished, failure may result in the end. But the JOURNAL got it in the mails before the crisis even showed signs of passing.

Timeliness is held to be of supreme importance in the information the JOURNAL publishes. There are periods when the gas industry is in greater need of certain kinds of information than it is of others. A year ago there was an intense interest in industrial fuel installations. Prospects without number were at hand to be turned into consumers with very little effort. The gas man needed information on how to apply gas to their particular needs. The JOURNAL devoted its greatest attention to supplying this information, and succeeded to a degree that was pleasing to both itself and its readers.

With the hundred and eighth volume—now completed—the need was especially for information on manufacture and its related by-products and house heating. The superintendent had come back into his old-time importance. All things were centered in him. There was a shortage of gas. He was looked to to meet it by getting more out of his available equipment. There was the matter of toluol recovery. Coal and oil had risen to unprecedented costs and rates had not kept pace. Any means to meet the standard and yet conserve oil and coal were sought. The JOURNAL sympathized with the superintendent in his predicament and in the new responsibilities that were and are being thrust upon him. He needed all the help in the way of suggestions and practical information that he could get. The JOURNAL went to extra exertions to get it for him.

House-heating business is looked upon by some companies as undesirable at the present time. But all companies have had to supply gas for such purposes whether they liked it or not. There was a big need for information on this subject. It was not easy to get the kind or the quantities it wanted, but the JOURNAL got it nevertheless. This it owed to its field.

Journalism, like every other human calling, profits through following consistently a definite policy. Simply selecting and editing whatever contributions or information that happen to come in does not make for an efficient technical journal. The matter might be all

very useful, but it is not necessarily the kind the reader wants and needs at the particular time.

It is the JOURNAL's policy to keep in close touch with its field, to determine promptly and, if possible, in advance what kind of information it is going to especially need. And the predominating bulk of matter in any volume will be found to be information of that kind.

In the hundred and eighth volume, consistent with its established custom, the JOURNAL maintained an independent and helpful editorial policy. When it detected some tendency that might be harmful to the field it frankly pointed it out without thought as to who might be offended. When a number of companies, some of them large, got hysterical as to new business, and stopped all efforts to get it, the JOURNAL did not stop to consider whose toes it was stepping on, or whose sensibilities might be offended. It bluntly stamped the tendency as a stupidity and pointed out the consequences.

When the prospectus for the amalgamation of the American Gas Institute and the National Commercial Gas Association was released, the AMERICAN GAS ENGINEERING JOURNAL took the stand that many of its readers would be too much occupied with other matters to study the plan as in their own direct interests they, perhaps, should. It, therefore, assumed that it was its duty to do this for them. After a careful study and canvass of opinion, it presented its views and opinions in a carefully considered editorial, in which it outlined what appeared to it defects in the plan. This was followed by other editorials emphasizing points previously brought out.

The principal defect revealed was in the limitations put on the independence of the active membership. Another weakness seemed apparent in putting the control of the new association's policies too closely in the hands of the company members. But it was the JOURNAL's contention that, if the membership was kept free and unshackled in its expressions, all other defects would be ironed out.

The rule the JOURNAL opposed as to membership was changed by the committee on amalgamation itself before the plan was even offered to vote.

No other gas journal felt called upon to criticise one feature of the amalgamation plan. No other voice was raised publicly, except the JOURNAL's, in regard to the shackles the plan seemed to put on the membership. And there is good reason to believe, since, when the plan was offered to general vote, no dissenting voice was raised to any of its features, that had it not been for the JOURNAL's action, those shackles would have remained and the new association started on its career severely handicapped.

We have outlined thus fully the reasonings we followed in determining upon the material we published in the hundred and eighth volume, and have made clear the JOURNAL's editorial viewpoint, because in this manner we can best indicate what the hundred and ninth volume will be. The JOURNAL, during the period in which the various numbers of the hundred and eighth volume were issued, maintained that accelerated rate of growth that became manifest a few months after it determined, two years ago, that the infusion of new ideas was necessary to its most efficient service. Everyone who reads does not take the trouble to let us know directly what his opinions are in regard to the policies we are following. In the absence of any such communications we can gauge their attitude only by the fact of whether they discontinue or renew their subscriptions. There have been comparatively few discontinuances, and these have been confined principally to men who have entered the National service, or for other reasons have severed their connection with the gas industry. New subscribers who have entered their names on our lists greatly overbalance these losses. There have been direct expressions, too, some of them brickbats, others bouquets, but the former have been few. These facts are encouraging, not to a let up in effort, but to an increase.

A Continuing Tendency

The loss of experienced and skilled workers to the gas industry is not confined to those entering the National service alone. Each day we continue to receive notices of men leaving to assume positions of responsibility in other industries.

It is questionable indeed if the gas industry ever really appreciated the wealth of talent and ability it had enlisted in its ranks. Why it should have been so especially fortunate in this respect the AMERICAN GAS ENGINEERING JOURNAL is not prepared to say. Perhaps it was an instinctive call to public service that brought these men; perhaps it was the associations, for the gas field is essentially a friendly and mutually helpful field. One thing is certain, it was not extravagant rates of pay.

Why are these men now being attracted away from us by offers from other branches of industry? Is it because of the restlessness so manifest among men who, by reason of dependents, or other factors, are held back from active participation in the war? Or is it a loss of faith in the industry? We know many gas company employees had long-established beliefs jarred by the small sense of obligation or responsibility some companies manifested some time ago towards even meritorious employees in their commercial departments.

The average man of pride and ambition would not care to hold a job unless he felt his employer was getting all he paid for, and some more besides, out of the work he performed. Yet, even men of this type are disturbed, even though fully assured of their own

positions, when their employer reveals a tendency to promptly dump overboard anyone and everyone who, at a particular moment, he does not see an immediate profit in.

Gas company commercial department employees who, in the hysterical period, were dumped or curtailed in their activities, had studied and bettered themselves intellectually at the behest of their employers because they had received what they regarded as assurances of the permanency of their positions. The others who were left behind cherished a similar belief.

The AMERICAN GAS ENGINEERING JOURNAL does not think it is altogether higher rates of pay which is attracting these gas men away from us, though such a factor is an especially important one to the individual in these days of low-buying power of the dollar. Such conditions have existed before and gas men did not succumb to the temptation. The JOURNAL believes their action is due to loss of confidence in the gas companies. Where such development has already occurred there is no remedy. But it should be made certain that reason for losing his faith in the company that employs him should never be given the gas company employee again.

How the Gas Companies Are Helping the Nation

PRIVATE H. J. SPRINGSTEAD, formerly in the employ of the Consolidated Gas Company of New York, is now in active service with the American Expeditionary Forces in France. He is a member of Company M, 165th United States Infantry. The following is a letter the JOURNAL received from Private Springstead:

"As you probably know, we do not have much time to write many letters over here, and I have been in the hospital for almost three months.

"When I left New York we were eighteen days on the sea before we arrived at a fort somewhere in France. We disembarked at this fort and marched to the railroad station, where we climbed aboard box cars, which, no doubt, you have already heard about. We then traveled in these for three days. The typical French box car is a poor imitation of the old New York horse car, with its flat wheels and hard wood floor, and you can readily imagine the amount of sleep we secured on this trip. Arriving at our destination, we hiked about twelve miles to the town in which we were to be stationed.

"This town consisted of about forty houses, and the people still wore the old-fashioned European dress and wooden shoes, and washed their clothes on the edge of the brook. This all seemed quite strange to me, after leaving all the modern accommodations that can be secured in and around New York.

"We remained in this town and trained in the tactics of modern warfare for a few months. This training was very interesting, and it consisted of trench digging, grenade throwing, gas mask drills, rifle practice and the French idea of charging over the top in attack. Quite a few nights we were awakened about midnight and hiked to the practice trenches we had dug, and then went through mimic warfare in the dark for a few hours.

"One day we were ordered to pack up, and we then knew that we were going to the front. It meant another ride in those wonderful box cars. At the end of our journey, we arrived at a small city within hearing of the guns. At night we could see the flashes of the guns, and we knew that we would soon be in the fight. The boche surely must have an awful lot of artillery, for they certainly do put over some fine bombardments. You can hear the shells whistling over your head, and it keeps you busy "ducking" them, but it is peculiar that the one that 'gets' you never whistles.

"The Y. M. C. A. does wonderful work, trying to make the boys comfortable and supplying their personal needs.

"Hoping to be with my friends in the gas industry in the near future, I am,

"Yours very truly,

"(Signed) PVT. H. J. SPRINGSTEAD."

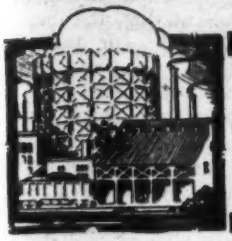
O. L. HEMMICK, formerly of the gas-pressure department of the Empire Gas & Electric Company, in Bartlesville, Okla., has arrived safely in France.

W. J. WUESTENFELD, general superintendent of the Muscatine Lighting Company, Muscatine, Iowa, has been selected for special work in the army gas department and recently left for Washington, D. C., where he is attached to a Gas Engineers' Corps. Mr. Wuestenfeld had been at the head of the company barely two weeks, having been appointed following the resignation of F. S. Hemly, who was promoted to a position at Kansas City. Prior to that time Mr. Wuestenfeld had been manager of the new business department.

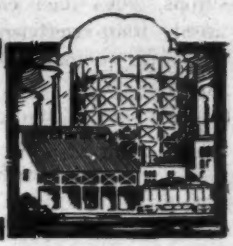
JOHN STARKIE, of New Bedford, Mass., has just been promoted to a sergeant, first class. He is at present stationed at Camp Upton. Sergeant Starkie is thirty-seven years old and was an employee of the New Bedford Gas & Edison Light Company. He enlisted Sept. 27 as a cook in the Regular Army.

FRANK C. GORDON, of 48 Way Avenue, Corono, L. I., who for the past two years has been secretary to C. G. M. Thomas, treasurer of the Consolidated Gas Company, left June 17 for the Massachusetts Institute of Technology to enter the training school for the Naval Reserve Force Flying School, where he is to have the rating of chief quartermaster. He will take the course for ground work at this school, and if successful in passing the tests will later be sent to a flying school. Mr. Gordon is twenty-one years old. He was born in Brooklyn, and is a graduate of Commercial High School there and of the New York Edison Commercial. He also attended New York University for two years.

J. F. OWENS, vice-president and general manager of the Oklahoma Gas & Electric Company, was captain of one of the soliciting teams in Oklahoma City during the Red Cross drive. H. H. Hermes, of the new business department, was first lieutenant on Captain Owens' team. With a quota of $160,000, the team had secured $193,064 up to May 23. One hundred and thirty employees of the company subscribed $1,012 to the second Red Cross war fund.



NEWS OF THE GAS INDUSTRY



Marion Company Drills Large Gas Well

When the drill of the Marion Oil & Gas Company entered 1 ft. of sand recently it encountered a gas flow that blew mud over the derrick, through 1,500 ft. of water. The well is in section ten-seven-six in an entirely new territory of Jefferson County near Red River. It is 1,535 ft. deep. Oil appears in fair quantities.

Big Assessments Put on Holdings of Oklahoma Company

The property of the Oklahoma Gas & Electric Company owned in Oklahoma City was tentatively assessed by the State board of equalization at $2,975,000.

Holdings of the company in the following towns were tentatively assessed as follows: Muskogee Gas & Electric Company, $1,200,000; Sapulpa Gas & Electric Company, $120,000; Drumright Gas & Electric Company, $62,000; Hennessey Gas & Electric Company, $10,000; Keifer Gas & Electric Company, $7,500; Central Oklahoma Gas & Electric Company, Norman, $73,000; Waukomis Gas & Electric Company, $3,900; Yukon Gas & Electric Company, $17,830.

National Association of Credit Men Establishes Itself on a War Footing

The National Association of Credit Men, closing its session at the Hotel La Salle, established itself on a war footing, and posted sentinals, who will remain on the watch every day in the year to deal with emergencies.

A council of war was created. It will hold frequent meetings and maintain close touch with all matters of nation-wide importance, especially the workings of the War Finance Corporation. A paid representative will be stationed at Washington.

Direct appeal will be made to Washington to authorize the trade acceptance by the railroads in settling for purchases. Congress will be asked to enact a national trademark law, creating a design of which "Made in the U. S. A." shall be a part, with restrictions and penalties regarding its use. The association also adopted a policy under which "unwarranted return of merchandise" will be discouraged.

The organization voted to exert its influence against trafficking in Liberty Bonds, deprecating the offering or acceptance of the bonds in settlement of merchandise accounts. Resolutions set forth that Liberty Bonds should be regarded as a permanent investment and sold only under stress of great necessity.

F. B. McComas, of Los Angeles, was elected president; Curtiss R. Burnett, of Newark, N. J., first vice-president, and A. E. Gillter, of St. Louis, second vice-president.

Menominee Company in New Offices

The Menominee (Mich.) Gas & Electric Company, who have held office in the Heinonen Block for several years, have moved their offices to the Kennedy Block, a short distance from their former location.

The change had been contemplated for some time, as the company has been cramped for room. The new site will be a big asset to the company's business, as they have more floor space. A room is set aside for a repair shop in the rear of the office.

Municipal Ownership of Bay City Utilities to Be Considered

The problem of municipal ownership of public utilities has been raised in connection with the proposal of the Saginaw-Bay City Railway Company and the Bay City Gas Company, Bay City, Mich., for increased rates for car fares and gas service.

Temporary Increase Granted Warsaw Company

The Indiana Public Service Commission, in an order which terminates the long controversy over the Warsaw (Ind.) Gas Company case, has taken the position that it will grant the company war-time relief, but that, because of hundreds of affidavits testifying to poor service by the company, it will accompany its war-time relief in rate provisions with a stipulation that daily tests of the service be made and reported to the commission.

The order in part follows:

This is the application of the Warsaw (Ind.) Gas Company for a temporary increase in its gas rates, to be effective during the period of the war. The petition sets out that materials, labor and all elements entering into the manufacture and distribution of gas have greatly increased during the past two years owing to the prevailing war and conditions incident thereto.

Due notice of the filing and assignment for hearing this petition was given the city officials, newspapers, civic and commercial organizations of Warsaw. It developed that the petitioner was furnishing gas to the town of Winona Lake, but that no notice of the hearing had been given to the town officials or citizens of said town. They were, however, later notified, and given opportunity to be heard, and the petition as affecting the town of Winona Lake is considered in this order. Pursuant to such notice the hearing was held in the rooms of the public service commission on Jan. 23, 24 and 25, 1918.

The present rates of the Warsaw Gas Company are as follows:

Less than 400 cu. ft., 50 cents net; 400 to 900 cu. ft., $1.25 net; 1,000 cu. ft. and over, $1.10 gross.

The above rates subject to the following discounts when paid on or before the tenth of the month following that in which service was given:

	Per M.
1,000 to 9,900 cu. ft. per month..	5c.
10,000 to 24,900 cu. ft. per month..	10c.
25,000 to 44,900 cu. ft. per month..	20c.
45,000 to 64,900 cu. ft. per month..	25c.
65,000 and over cu. ft. per month..	30c.

Application is made to put into effect the following temporary schedule:

First 5,000 cu. ft., $1.35 per 1,000 net, $1.45 gross.

Next 5,000 cu. ft., $1.25 per 1,000 net, $1.35 gross.

Next 10,000 cu. ft., $1.15 per 1,000 net, $1.25 gross.

Next 30,000 cu. ft., $1.05 per 1,000 net, $1.15 gross.

Excess over 50,000 cu. ft., 90 cents per 1,000 net, $1 gross.

A minimum charge of 50 cents per meter per month shall be assessed to each consumer who does not use at least 370 cu. ft. of gas per month per meter.

A tentative appraisal of petitioner's property and an audit of petitioner's books were made by the commission's staff. The engineers found originally a present physical value of $105,226, which, however, was later reduced by the staff to $99,958, due to the fact that the engineers had originally credited petitioner with ownership of service pipes inside the curb line, and later it was determined that same were privately owned.

An audit by the commission's staff, as well as the evidence in the case, shows the following to be the summarized income account of petitioner for the year 1917:

1917 INCOME ACCOUNT

Operating revenues, including residuals...(gross income)	$42,173.78
Operating expenses	37,616.27
Which would leave.....	$4,557.51
Allowing 1.5 per centum annually for depreciation, petitioner would have available for this purpose.....	$1,315.52
Which would leave but.....	3,241.99

available for return on investment or for interest on funded and floating indebtedness.

It has been shown in many instances that the cost of coal has greatly increased. Up to June 1, 1917, petitioner was paying approximately $1.45 per ton for coal at the mine and $3.35 per ton for coal f.o.b. Warsaw after June 1, 1917, when petitioner was compelled to pay $3.75 per ton for coal at the mine and $5.80 per ton f.o.b. Warsaw, its coal contract having expired.

There has been an increase in the revenue derived by petitioner from residuals, but the dollars and cents increase from this source did not at all keep pace with the abnormal increase in the cost of coal. It was shown that there were other material increases in the cost of operation.

The evidence shows and the commission believes that there will be no decrease in the cost of operation during the war period, but rather will there be further increases, and it is the purpose of this order to provide emergency relief sufficient to permit petitioner to render adequate service during the war period and allow it to earn a fair return.

Any increase granted in this case will be but temporary. There is sufficient evidence before the commission to determine that no reasonable deductions from operating expenses would warrant a refusal to grant relief.

Petitioner has outstanding $40,000 6 per cent bonds and $55,000 5 per cent bonds, making a total of $95,000 underlying interest-bearing securities, but obviously less than the total value of petitioner's property. It is manifestly the duty of the commission to allow a return sufficient to meet these interest charges. Under the present rates, with the constantly increasing cost of operation, it is evident that the funds which petitioner would have available for this purpose will be reduced at the end of the year 1918 to a point where only a small portion of the interest charges could be paid.

Under all the circumstances, it is clear that petitioner should be granted relief during the war period.

In the judgment of the commission, it would be unwarranted to grant the relief which petitioner asks, and at the same time permit unsatisfactory and inadequate service to continue. The commission will grant relief to petitioner to meet the exigencies of war-times, but at the same time it will require daily tests of the quality and pressure of gas furnished, and frequent reports to the commission. The engineering staff of the commission will be used from time to time in determining standards of service rendered. The utility will be required to render adequate service, and the continuance of the relief granted will be contingent upon the maintenance of proper and adequate standards of service.

The commission finds that the present rates and charges of the company are insufficient and should be temporarily increased. The present schedule of rates will not be materially altered, except that a provision will be made for a minimum bill of 75 cents per month.

The increase allowed will be in the nature of a war surcharge, such surcharge to be 15 per cent added to all bills, and shall be designated "war surcharge."

It is therefore ordered by the Public Service Commission of Indiana that the following schedule of rates, charges and rules shall, after the effective date of this order, be observed and collected by the Warsaw Gas Company in lieu of those now in force:

First 5,000 cu. ft., $1.20 per 1,000 gross, $1.10 net.

Next 5,000 cu. ft., $1.10 per 1,000 gross, $1 net.

Next 10,000 cu. ft., $1 per 1,000 gross, 90 cents net.

Next 30,000 cu. ft., 90 cents per 1,000 gross, 80 cents net.

Excess over 50,000 cu. ft., 85 cents per 1,000 gross, 75 cents net.

Consumers will be billed at the gross rates, and the difference between the gross and net rates above specified will constitute a discount for prompt payment, if bills are paid on or before the fifteenth day of the month succeeding the month in which service was rendered.

A minimum charge of 75 cents per month shall be assessed monthly to each consumer who does not use at least 400 cu. ft. of gas per month per meter.

Until the further order of the commission, and only until May 1, 1920 (unless theretofore ordered), there shall be a surcharge of 15 per cent added to all bills based on the above rates, except that no surcharge shall be added to the minimum bill of 75 cents.

The above rates and the surcharge above specified shall apply to all consumers of petitioner, including the town of Winona Lake.

It is further ordered that petitioner shall at all times maintain gas heating values as provided in the commission's rules heretofore promulgated, i. e.:

"A monthly average total heating value of not less than 600 B.t.u., with a minimum which shall never fall below 550 B.t.u.

"Gas pressure at meter inlets shall never be less than ½ in. nor more than 6 in. of water pressure, and the daily variation of pressure at the inlet of any one meter on the system shall never be greater than 100 per centum of the minimum pressure.

"In no case shall the gas contain more than 30 grains of total sulphur per 100 cu. ft., and not more than a trace of sulphur as sulphuretted hydrogen.

"The petitioner shall equip itself with a standard calorimeter outfit, and shall make daily tests of the quality and pressure of gas furnished. These tests shall be properly and correctly made, and the record of each test shall be open at all times for inspection by any user of the service of the company.

"On the first day of each month the petitioner shall file with the public service commission a verified record of the daily tests made during the preceding month, and such reports shall continue until the further order of this commission.

"If for any cause not beyond the control of the petitioner the standard of gas furnished shall fail to comply with the above provisions, the surcharge hereinbefore granted shall be subject to immediate withdrawal by the commission."

It is further ordered that petitioner shall set aside annually for depreciation 1½ per cent of the value of all of its property less lands, materials and supplies, and the fund so created shall be handled and expended in conformity with the provisions of Section 25 of the Utility Act of Indiana, and the future rules and regulations of this commission.

The rates and surcharge by this order allowed shall be effective from May 1, 1918; that is to say, that the increase granted shall apply to gas furnished by the company during the month of May. The provisions of this order as to service rendered by the company shall forthwith be effective.

It is further ordered that the Warsaw Gas Company shall pay to the treasurer of the State of Indiana within ten days from the date of this order the sum of $195.76, this being the expense incurred in connection with the audit and appraisal of said company's property.

Will Discontinue Service in Delta Unless Increase is Granted

The Ohio Gas Light & Coke Company, Napoleon, Ohio, has served notice on the Delta council that unless consumers pay them 25 cents more per 1,000 cu. ft. of gas, they will be forced to discontinue service in Delta.

Consumers are paying $1.25 per 1,000 cu. ft. of gas, at which price the company claims to be losing money.

The same notice was given recently in Montpelier. The Montpelier council allowed the increase.

Increase Denied Iowa City Company

The Iowa City council refused to indorse a raise in the gas rate from $1.25 to $1.60, by a unanimous vote.

Beginning June 1 the Iowa City Light & Power Company raised the rates to $1.60.

A Correction

There appears on page 584 of the June 15 issue of the AMERICAN GAS ENGINEERING JOURNAL an item entitled "Toronto Company Wants to Mix Natural and Artificial Gas as a War Measure." "Toronto" was inadvertently substituted for "London."

Company Offers to Turn Kenosha Plant Over to City

The Wisconsin Gas & Electric Company at a hearing before the railroad commission at Kenosha, Wis., June 7, offered to turn over its entire properties to the city at a price to be set by the railroad commission. The properties include utilities for the supply of gas, electricity, street railway service and the public heating plant.

Committee Appointed to Investigate Possibilities of Natural Gas at Port Huron

The Chamber of Commerce has appointed a committee to investigate the possibilities of developing natural gas wells in Port Huron, Mich. Several wells have been sunk by private citizens and a good quality of gas secured.

New Bond Issue Authorized for Louisville Company

For the purpose of taking care of the $9,563,000 refunding 6s due July 1, the Louisville Gas & Electric Company has issued $10,500,000 first mortgage five-year, 7 per cent bonds through a syndicate of underwriters. The bonds are offered at 98, thereby yielding 7½ per cent.

The bonds are secured by a mortgage on the entire property, franchises, etc., subject to $3,121,000 Louisville Lighting Company first 5s of 1953. The capital issues committee of the War Finance Corporation gave its approval to the issuance of the obligations as not being incompatible with war needs.

Government Establishes Division of Engineering

Government supervision of employment for technical men has been inaugurated by the United States Employment Service, through the establishment of a division of engineering, with A. H. Krom, of Chicago, formerly secretary of the American Association of Engineers, as director. Mr. Krom is a graduate of the School of Electrical Engineering, Purdue University, and for the past eight years has been actively engaged on utility development and promotional work. Recently he was engineer in charge of the Chicago office, State Public Utilities Commission of Illinois.

War demands on the engineering profession have already caused a serious shortage of men with mechanical designing experience and those with practical experience in chemical engineering. At present the professional organizing mediums reach less than 20 per cent of the estimated 300,000 technical men in the country. This is not a satisfactory arrangement for war times. All the technical men of the country must be reached and, in addition, all men with technical experience must be carefully registered so that they will be immediately available. The advantages of such a governmental registering and systematizing of employment will be apparent at once to the engineer. As a result of tremendous demands for technical service, due to the war, several years might be wasted through scattered individual effort and lack of cooperation between the members of the profession and the technical so-

cieties. Greater engineering is needed to win the war, and the Government demands unity and efficiency in the technical profession to assure early victory. The highest efficiency is obtained through practical organization.

In consideration of the fact that this is principally an engineer's war, the importance of Federal direction of proper distribution and conservation of the technical service of the country is a very important matter. The service will be started through the office of the director of engineering, 29 South LaSalle Street, Chicago. All technical men desiring to register for emergency Government work or permanent advancement in positions meeting their qualifications, are urged to volunteer at once for registration, classification and employment.

Increase Petition Filed by Peoples Natural Gas Company

The Peoples Natural Gas Company, of Rushville, has filed a petition with the Public Service Commission of Indiana, asking for an increase in rates from 30 cents per 1,000 cu. ft. to $1 per 1,000 cu. ft. for the first 1,000 ft., and 50 cents per 1,000 ft. for all gas consumed above the first 1,000 cu. ft. The company's petition sets out that, owing to the high price of coal and the low rate for gas, consumers are depleting the gas supply by excessive use of it in place of coal.

Flint Gas Rate Raised

The petition of the Michigan Light Company, Flint, Mich., for an increase in the gas rate from 85 cents to $1 per 1,000 cu. ft. was granted recently by the council.

Providence Company to Raise Rates Again

Another increase in the price of gas is planned by the Providence (R. I.) Gas Company. Informal notice of the company's intention has been served on the city government, but the amount of the raise has not yet been fixed.

"We have simply got to have another increase," John R. Freeman, president of the company, said, in discussing the matter. "Coal and gas oil have increased greatly in price and there is a big increase in freight rates pending.

Greenville, Miss., Granted Increase

A special meeting of the Greenville (Miss.) council was held June 12 for the purpose of considering the petition of the Greenville Gas Company for authority to advance the price of gas, and after due consideration the increase was granted.

The following notice of the increase was published in the daily papers:

NOTICE TO GAS CUSTOMERS

Public notice is hereby given to all patrons of the Greenville Gas Company of a change in gas rates to take effect commencing with June 15, 1918, in accordance with authority granted in an amended ordinance to the gas franchise passed by the City Council of Greenville, Miss., on Wednesday, June 12, 1918, and published in the Greenville *Democrat-Times* on Thursday, June 13, 1918, and in effect on and after that date.

Commencing with June 15, 1918, all gas consumed each month will be billed to users upon the following basis:

For the first 10,000 cu. ft. at $1.85 gross, or $1.75 net per 1,000 cu. ft.

For the second 10,000 cu. ft. at $1.60 gross, or $1.50 net per 1,000 cu. ft.

And for all over 20,000 cu. ft. at $1.35 gross, or $1.25 net per 1,000 cu. ft.

All gas consumed through a prepay meter will be charged at $1.75 net per 1,000 cu. ft.

A monthly minimum bill of $1 will be charged whether a prepay or regular meter.

Last day of discount on all bills will be the tenth day of each month.

GREENVILLE GAS COMPANY.

St. Louis Company's Bread Cast Upon the Waters Is Returned Many Fold

(*Continued from page* 619)

of the gas company, a ten-minute sketch was provided and given fourteen performances, matinee and evening for a week, as part of the regular bill of the Columbia Theater, a high-class vaudeville house of St. Louis.

The Gas Range On the Theater Stage

The setting was the kitchen made famous by "Mrs. Wiggs of the Cabbage Patch." A white porcelain gas range, with all the burners going full blast, was the principal "prop." The entire course in canning was described in ten minutes. Although a different group of ladies participated in the sketch at each performance, and although none of them had ever been on the stage before, the act brought great applause and was carried out without a single minute's delay to the rest of the bill, thanks to the efforts of the commercial manager of the Laclede Gas Light Company, who was behind the wings at each performance.

Gas Ranges in Operation on Trucks

There was still another class of women who had not been reached—the business woman, who is too busy to go either to a vaudeville show or to a food conservation demonstration. To them the demonstration was brought on huge motor trucks equipped with gas ranges in operation, and tempting jars of fruits and vegetables. The trucks stopped at street corners during the noon hour and at other periods of the day, and in five or ten minutes the committee on Food Conservation had brought home its lesson.

The committee started the truck demonstrations using oil stoves. They found these unsatisfactory, and came to the gas manager for help. He went to the Safety Car Heating Company and borrowed a tank such as is used for gas storage on railroad cars. This was filled with 300 ft. of pitch gas each morning, and equipped with a regulator proved very satisfactory.

Janitor Does Likewise

The canning fever had become so rampant in St. Louis that the head janitor of the Laclede Gas Light Company, not to be outdone by mere woman, held canning demonstrations on the back porch of his home in one of the foreign quarters every Sunday afternoon, and there taught the cold-pack method to hundreds of neighbors.

Without a doubt, however, the greatest source of pride, both in the gas company and the Women's Committee on Food Conservation, is the success met by the community kitchen. In the first month of its life this kitchen served 6,000 substantial and balanced meals for 5 or 10 cents without attaching the slightest ele-

CLASS OF FIFTY ST. LOUIS HOUSEWIVES ATTENDING ONE OF THE DEMONSTRATIONS

ment of charity to the enterprise. At the end of the month the kitchen not only was self-suporting, but showed a profit of 37 cents.

While the writer was at the community kitchen a barefooted, mud bespattered Huckelberry Finn tramped in with a basket. He had come all the way from East St. Louis, Ill., and had spent a dime to get across the Mississippi River, in order to bring home for about 20 cents a meal such as would cost his mother about a dollar—if she had the time to go marketing and do the cooking. Both the boy's father and mother worked. The previous day the mother had made a special trip to St. Louis and deposited with the woman in charge of the community kitchen enough money to pay for a week's meals for the family of three —$4. Each day the boy comes for the food. It is safe to say that in this particular case the community kitchen, made possible only through the gas company's co-operation with the Committee on Food Conservation, stands between the East St. Louis family and starvation. The instance is typical.

The police sergeant on the beat and the college woman in charge of the branch library down the street also have lunch at the community kitchen. A large sign outside reads:

THIS IS YOUR KITCHEN—WE DO YOUR COOKING FOR YOU

The first community kitchen is supervised by Mrs. Maria E. Schulz, who thirteen years ago managed a community kitchen in Berlin similar to this, except that the element of charity was brought into the German affair. Mrs. Schulz, though born in Germany, is thoroughly American in spirit. She is the wife of a prominent physician in St. Louis. Her work, like that of all the other women connected with the kitchen, with one exception, is voluntary.

Within the next few days a second community kitchen will be opened in St. Louis, again with the co-operation of the gas company, and before 1918 the Committee on Food Conservation hopes to have a string of five such kitchens in operation, one in each of the slum districts. The community kitchens also are used for educational purposes, and it is a common sight to see a housewife getting instruction from the community kitchen cook.

EQUIPMENT OF COMMUNITY KITCHEN

The equipment of the community kitchen includes the following gas-fired appliances:

One four-rack pastry oven, which is also used for roasting meats.

One regulation family range.

One combination boiler and water heater.

One washing machine.

One ironer.

One tea towel dryer.

Seven regulation star burners for copper jacketed kettles.

The merit of the methods used by the Women's Central Committee on Food Conservation and the gas company has met such recognition in St. Louis that a budget of $20,000 has been promised the women for the furtherance of the work this year. This money is being raised by the Division of Ways and Means Committee.

One other phase of this enterprise should interest the gas man. It is this: The women leading the movement are the most desirable type of American feminism, and the type of women whose good will a gas company needs the most. They are the club women of St. Louis, many of them trained social workers, others leaders of society, all the wives of either big business men or of men prominent professionally. They are the women who are up and about all the time. They are spreading the gospel of good will toward the Laclede Gas Light Company wherever they go. They are not doing this merely because the gas company donated this or made them a gift of that, but because they realize that the gas company has had the community interest at heart just as have the women themselves. That in all the gas company's help it was merely the American gentleman's help to the American lady, not the business man's check to the social worker or the publicity seeker.

Peoples Company Must Produce Contract by Which it Pays Indiana Company $300,000 Annually

The Peoples Gas Light & Coke Company must produce the contract between the company and the Indiana Natural Gas & Oil Company, by which it pays to the Indiana concern $300,000 annually. It also must give an analysis of the amount of natural gas sold by the Indiana concern to the Peoples company, the price paid and the yearly statements of the business done by the subsidiary concern, to show what profits the Chicago company has received. These rulings have been made by Commissioner Walter A. Shaw in the gas company's fight for a 30 per cent increase in rates before the Illinois Public Utilities Commission.

It looks as though the gas company will be permitted to increase its rates 30 per cent, beginning Aug. 1. with the understanding that if the hearings bring out the increase is not justified, the extra charge will be refunded to consumers.

Attorneys for the company have asked Commissioner Shaw for this concession, and he has the matter under advisement.

As a basis for the increase figures were presented showing that at present rates the company would lose $2,749,808.46 this year. The figures were presented by E. J. Ward, vice-president of the Peoples Gas Light & Coke Company. They follow:

Income from sales	$17,196,709.23
Other sources—	
Penalty	365,000.00
Sulphur	50,000.00
Lamp rentals	220,000.00
Office building	327,000.00
Pintsch Compressing Co.	61,300.00
Interest	57,000.00
Interest on securities	2,500.00
Rentals	4,200.00
Discounts	30,000.00
Total income	$18,313,709.23
Operating expense	18,687,367.49
Loss	$374,658.46
Bond interest	2,375,150.00
Total loss	$2,749,808.46
Temporary increase necessary on average price of 69 cents—30 per cent, or 20.70 cents per M	5,159,012.76
Surplus	$2,409,204.30

Wisconsin-Minnesota Company Seeks Increased Rates for Several Cities

The State railroad commission has been asked by the Wisconsin-Minnesota Light & Power Company for permission to increase their gas rates in the cities served. A hearing on the application will be held.

Beaver Dam Company Asks Commission to Examine Books so As to Insure Operation of Plant

The Beaver Dam Fuel & Light Company has made application to the Railroad Commission of Wisconsin for an examination into its affairs and for a readjustment of its income so as to insure the operation of the plant at a profit.

Last summer a similar application was made by the local company, and after a hearing by the commission a temporary advance of 20 per cent in its then existing rate was granted. This advance went into effect on Dec. 1, 1917, and was to cease on June 30 of this year, at which time there was to be a return to the old rate in force before the advance, or a further investigation.

The company now claims in its application that its plant is being operated at a loss under the present rates and asks that the commission examine into their affairs and determine a rate which will be high enough to permit of the operation of the plant at a fair profit. Similar action is being taken on the part of gas companies all over the State.

Gardner Gas Rate Advanced

The gas rate of Gardner, Mass., increases from $2 to $2.50 per 1,000 ft., beginning June 1, according to a recent announcement made by the Gardner Gas, Fuel & Light Company at a town meeting.

Colorado Springs Consumers to Pay Increased Rate

The public utilities commission granted an increase in gas rates to the Colorado Springs (Col.) Light, Heat & Power Company.

The gas rate is advanced from $1.25 to $1.35 per 1,000 cu. ft. for the first 5,000 ft. of gas consumed per month, and is effective beginning June 1.

Monroe Company Asks Permission to Charge Higher Rate

The Monroe (Wis.) Light & Fuel Company has petitioned the State railway commission for another raise in gas rates. The request is for a 25-cent increase on each 1,000 cu. ft. of gas, or a boost in price of from $1.75 to $2, with the usual discount for payment on the tenth of the following month and deduction for large amounts of gas consumed.

The last increase was granted by the commission in August, 1917.

Request for permission to increase rates is asked "for the reason that the tremendous increase in all material and labor has caused the cost of operation of the plant to exceed its receipts."

Following is the schedule of rates asked for, in the main being 25 cents higher than the rates that now prevail: 1,000 to 5,000 cu. ft. per month, $2 per 1,000; 5,000 to 10,000, $1.85; 10,000 to 15,000, $1.75; 15,000 to 20,000, $1.65; 20,000 to 25,000, $1.60; over 25,000, $1.50.

Discount 10 cents for each 1,000 cu. ft. to be paid on or before the tenth of the month, and there are no bills in arrears.

Minimum rate 50 cents per month.

Increased Rate Asked for Aberdeen and Hoquiam

The North Pacific Public Service Company recently filed a new schedule of gas rates for Aberdeen and Hoquiam, Wash. The new schedule boosts rates from 20 to 40 per cent. The State public service commission has taken no action and no protests have been received.

Another Advance in Salisbury Rates Announced

The Citizens Gas Company, of Salisbury, Md., gave notice by advertisement of another advance in the price of gas, effective on and after June 27, 1918. The advance will amount to 25 cents per 1,000 cu. ft., which will bring the gas rate up to $1.85 per 1,000 cu. ft., less 10 cents per 1,000 cu. ft. if paid within ten days. This is the second advance posted by the company within a year, and is made necessary because of the continued advances in the price of all commodities entering into the manufacture of the product.

Higher Rate Sought by Charlestown Company

The Charlestown (Mass.) Gas & Electric Light Company has asked the State gas and electric light commissioners to permit it to increase the price of its gas. The present rate is 85 cents per 1,000 ft. The petitioner does not state the price it wishes to charge. Increased cost of production because of war conditions is given as the reason for the request.

THE CITIES SERVICE COMPANY directors recently declared the regular monthly cash dividends of one-half of 1 per cent on the preferred stock, and one-half of 1 per cent in cash and three-fourths of 1 per cent in stock on the common stock.

Key City Company Asks City Council to Advance Rates

Because of the advance in the cost of coal and labor the Key City Gas Company, of Dubuque, Iowa, through its manager, George McLean, presented to the city council at a recent meeting a petition asking that the company be allowed to advance the price of gas 25 cents per 1,000 cu. ft. The present price of gas for 1,000 cu. ft. is $1 net, and the advance would bring the price up to $1.25 net. Mr. McLean addressed the council on the advance and the members, after hearing his talk, referred the petition to the committee of the whole for action.

In his petition to the council Mr. McLean stated that the increase in the price of coal and labor necessitated the increase in the cost of gas to the consumer. His petition stated that the advance in coal prices in a year amounted to $70,000 for his company, and that the price of labor had been doubled in most cases and in some instances advanced higher. Other necessities in the gas works have also advanced along with other articles, and as a result of these advances, according to Mr. McLean, the gas consumption is no longer returning the company any profit on the invested capital.

Deny Coast Company's Request for Increase

The application of the Coast Gas Company, operating in the vicinity of Asbury Park, N. J., for permission to add an additional temporary charge for gas service, because of the high cost of operation, was denied by the state board of public utility commissioners.

Propose 80 Cent Rate for Kansas City

The solution of the Kansas City (Mo.) gas problem that has been reached by the committee of the Chamber of Commerce is a raise in price. The committee proposes an 80-cent rate plus a surcharge of 50 cents a month, and suggests that Kansas City will have no relief in the situation unless expedient and radical measures are employed. A plan to supply the city with gas through increasing the supply of natural gas for the coming winter and the gradual introduction of artificial gas as needed, is included in the report made by the committee.

Increase Asked for Duration of War by Rockford Company

Henry S. Whipple, manager of the Rockford (Ill.) Gas Light & Coke Company, has petitioned the Illinois State Public Utility Commission for permission to place into effect for the duration of the war a flat increase of 25 cents per 1,000 ft. of gas.

The present rates for gas and the cost to consumers, per 1,000 ft., if the advance is allowed, follow:

Feet	Present	Proposed
First 5,000	$0.95	$1.20
Second 5,000	0.90	1.15
Next 20,000	0.80	1.05
Next 20,000	0.75	1.00
Next 50,000	0.70	0.95
Next 100,000	0.60	0.85

Increased Rate for Ashland

The Ashland Gas Light Company, operating in the Borough of Ashland, Schuylkill County, Pa., has filed with the public service commission a new tariff, effective June 30, 1918, making the following increases in existing rates:

Gas for heating purposes, when on separate meter, increased from $1.40 net to $1.60 net per 1,000 cu. ft. The minimum charge applying to all classes of service is increased from 50 cents to $1 per month, made up of a meter charge of 50 cents and a service charge of 50 cents a month.

Get-together Dinner of Pacific Coast Gas Association Held in San Francisco—Important Part Gas Plays in War Discussed

Members of the Pacific Coast Gas Association met at their second get-together dinner of the present season on the evening of Saturday, June 15, at the Palace Hotel in San Francisco. President John D. Kuster was in the chair and the evening's entertainment was especially good from both business and social points of view.

The most important business feature was the presentation by Chairman Leon B. Jones, of the papers and meetings committee of the program, as compiled to date, for the September convention in Los Angeles. Of this it may be said that it deals mainly with subjects that are closely allied to the part gas is playing in the war program. The list follows:

"Selling Gas for Industrial Uses," by C. M. Robert, industrial engineer, Los Angeles Gas & Electric Company; "Use of Natural Gas for Power in Gas Engines," by F. H. Bivens, district manager at Pamona, and S. W. Todd, new business manager, both of Southern Counties Gas Company; "Complaints and Their Correction," by Fred Shafer, superintendent, Southern California Gas Company; "New Business," by Frank Weiss, manager new business department, Los Angeles Gas & Electric Company; "Use of Gas in the Army Cantonment at Camp Kearny," by D. J. Young, assistant general superintendent, and A. E. Holloway, manager new business department, San Diego Consolidated Gas & Electric Company; "Gas Supply at Camp Fremont," by W. T. Kellogg, superintendent gas department, Redwood district, Pacific Gas & Electric Company, and "Gas Shipbuilding," by H. P. Pitts, manager commercial department, San Francisco district, Pacific Gas & Electric Company.

Vice-president A. B. Day reported for the committee on membership the receipt of twenty-nine new applications. It is interesting to hear that two of these came from far-away Honolulu.

Other committees reported progress. Secretary Henry Bostwick was warmly congratulated upon Volume 11 of the Proceedings of the Pacific Coast Gas Association, recently issued from the press. It was with regret that the meeting received the report of Chairman P. S. Pederson, of the committee on exhibits, to the effect that, owing to the existing conditions, it had been decided not to hold the usual exhibit of gas appliances at this year's convention. With this one exception prospects for the Los Angeles gathering appear unusually rosy.

Following these reports several speakers were heard from. It was a great delight to have three officers in khaki with us. One was Captain R. W. Brewer, of the British service, who won golden opinions from us at the Santa Cruz convention last year; another was Captain F. L. Goord, also of the British service, who came to us from the trenches; the third was Captain Brophy, of the United States Army, who is out on this coast on special work connected with the Gas Defense Service.

Captain Brewer gave some interesting figures upon the industrial

uses of gas at the present time in England. For example, one firm of steel manufacturers in Sheffield is using not less than 500,000,000 cu. ft. per annum; in the same city there are 642 furnaces in operation, using an aggregate of 372,000,000 cu. ft., and there are internal combustion engines in use which account for 789,000,000 more. "The result of this enormous use of gas has been a considerable reduction in the price of gas to consumers," announced Captain Brewer, with emphasis, "and that in spite of the general increase in the cost of labor and material."

Captain Brewer spoke also of the work done "over there" in the recovery of by-products from gas manufacture; also of the use of gas as motive power for automobiles. Concerning the latter it was interesting to know that in London gas is furnished for automobile use at 4 shillings per 1,000 cu. ft., which, Captain Brewer said, is equal to gasoline at 20 cents a gallon.

Captain Goord detailed some of his experiences in gas warfare at the front, and interested his hearers with a description of the development of the gas mask. Captain Brophy, in explaining the gas defense service campaign, expressed the opinion that the war of the future would be largely one of atmosphere, that there was a constantly increasing use of gas shells at the front and improvements in these and in gas masks were both constant and necessary. Captain Brophy declared himself delighted at the wonderful co-operation he had received from the gas men of the West in the national campaign.

E. C. Jones addressed the meeting in his usual pleasant way, and read an interesting letter from our friend, Harry Strange, late of Honolulu, who is now performing special service at the front along lines for which his training as a gas man here has especially fitted him.

Former President C. B. Babcock and Frank A. Leach, Jr., were heard from. The former spoke enthusiastically on the part gas is playing in modern development, while the latter received congratulations on the completion of twenty-one years in the gas service. L. H. Newbert, H. P. Pitts and F. S. Myrtle also addressed the gathering.

THE UNITED GAS IMPROVEMENT COMPANY declared the usual quarterly dividend of 2 per cent, payable July 15.

Cadogan Company Files Application for Increase

The Cadogan Gas Company, operating in North Buffalo Township, Armstrong County, Pa., has filed with the public service commission a new tariff of rates, governing the distribution of natural gas, to become effective on July 1, 1918, increasing the rate for gas supplied to all classes from 25 cents net to 30 cents net per 1,000 cu. ft.

The new tariff further provides that the minimum charge is to be increased from 50 cents to $1 per month.

Woburn Increase Effective June 20

Another increase in the price of gas in Woburn, Mass., from $1.50 to $1.60, effective June 20, according to the notification of the Woburn Gas Light Company, was filed with the gas commission.

The company also filed a statement of the reasons for the increase, giving schedules of costs and other data that the directors of the company state force the action. An increase to $1.50 was put into effect on Feb. 1.

The decision to raise the price of gas to $1.60 was decided upon at a meeting of the board of directors on June 4.

Gas Well Struck Near Glasgow, Ky.

The Hoffman Oil Company drilled in a 1,000,000-ft. gas well recently on the Sam Francis farm, near Glasgow, Ky. It came in with such force the drillers were compelled to close down until they removed the boiler away from the well.

Request Consolidation of Natural Gas Companies in New York

Petitions involving consolidation of various gas producing and distribution systems in western New York were filed with the Public Service Commission, Second District, June 15.

The Frost Gas Company makes application for an order of the commission, authorizing it to acquire all of the capital stock of the New York Central Gas Company, Inc., the petition stating that the petitioner and the other corporations interested are engaged in the production and distribution of gas for fuel and illuminating purposes in Chautauqua, Erie, Niagara, Genessee, Livingston, Wyoming, Monroe and Ontario Counties, which it is proposed to hereafter operate as one system.

Applications are also made for orders authorizing the transfer of the properties of these companies to the New York Central Gas Company, Inc.: The South Shore Natural Gas & Fuel Company, the Silver Creek Gas & Improvement Company, the Alden-Batavia Natural Gas Company, the Akron Natural Gas Company, the North Buffalo Natural Gas & Fuel Company, the Niagara Light, Heat & Power Company, the Attica Natural Gas Company, the Ontario Gas Light Company, the Fredonia Gas Light Company.

THE FAYETTE COUNTY GAS COMPANY declared the regular quarterly dividend of 66 2/3 cents a share, payable June 20 to holders of record June 14.

THE PRAIRIE OIL & GAS COMPANY has declared the regular quarterly dividend of $3 a share and the usual extra dividend of $2, payable July 31 to holders of record June 29.

Personal Notes

C. R. STAHL, assistant general manager of the Peoples Light Company, Davenport, Iowa, will temporarily succeed William J. Wuestenfeld as manager of the Muscatine (Iowa) Lighting Company.

THE READING (PA.) GAS COMPANY recently held the annual stockholders' meeting at which the following were elected: William McIlvain, president, and Isaac Hiester, John J. Kutz, Hunter Eckert, F. C. Smink and W. Harry Orr, directors.

WALTER M. RUSSELL, who for several months has been chemical engineer for the Providence (R. I.) Gas Company, is now superintendent of manufacturing.

JAMES H. READIO, JR., who recently came from the Pawtucket (R. I.) Gas Company to the Providence Gas Company as assistant chemical engineer, will take over most of the work of the chemical department, also assisting in plant operation.

C. E. CHAPPLE, superintendent of the industrial division of the Brooklyn (N. Y.) Union Gas Company since the early part of 1913, has accepted a position with the Doehler Die Casting Company, of Brooklyn, N. Y., and Toledo, Ohio, as gas engineer. He assumes his new duties July 1. Mr. Chapple is well known to every industrial gas fuel engineer throughout America, not only because of his wonderful success as an industrial gas fuel specialist during the last five years with the Brooklyn Union Gas Company, but also because of his unselfish and zealous efforts to promote a thorough knowledge of this branch of engineering through the National Commercial Gas Association and its publications. It would be very hard to overestimate the value of his work to the gas industry. At the very beginning of his career as the head of the industrial division he classified and tabulated almost every conceivable use of gas in industrial work, and since that time he has been fortunate enough to see practically every one of these uses successfully accomplished under his supervision. In many ways Mr. Chapple is a remarkable man. Besides being endowed with extraordinary mechanical and inventive faculties, he possesses excellent business judgment and tact. In all of his five years with the Brooklyn Union Gas Company it is doubtful if any of his subordinates ever knew him to become excited or to lose his temper, yet his discipline left nothing to be asked. Any one of his men took any task he assigned with pleasure, whether it was work in the small hours of a cold night or in the heat of a summer day. Hours never counted with them any more than with him, and in all these five years not one of his men has ever grumbled at anything he has ever done. Such a record is made only by remarkable men. Mr. Chapple was born in the Borough of Manhattan, New York City, in 1878. He has had an excellent industrial experience before entering the gas industrial field, and one by its nature well fitted to give him the proper equipment to attack the manifold problems he encountered in the position he is leaving. This together with his five years' experience as the head of the industrial gas fuel division of the Brooklyn company has given him a training that is second to none with which to enter upon his new field as gas engineer of a large die-casting company. From 1891 to 1903 Mr. Chapple was employed by Henry R. Worthington, manufacturer of pumping machinery, in various capacities, such as general storekeeper and purchasing agent. From 1904 to 1905 he acted as special agent for the Crocker-Wheeler Electric Company, of Ampere, N. J. In 1905 he took a position as production and works manager with the New Jersey Steel Company—the Bayonne Steel Casting Company. He continued

C. E. CHAPPLE

with this company for seven years. In March, 1913, he became head of the industrial division of the Brooklyn Union Gas Company, where his work has been an encouragement and an inspiration to every gas man who is sincere enough in his interest to aspire to being more than a mere position holder. Mr. Chapple is a member of the Brooklyn Engineers' Club and also of the American Gas Association.

C. H. STONE, new manager of the Lansing (Mich.) Fuel & Gas Company, who succeeds Clark Graves in that capacity, has assumed the duties of his new work. Mr. Stone went there from Detroit, where for a year and a half he had charge of Station A of the Detroit City Gas Company. Prior to his service in Detroit he was manager of a gas company in New York State for six years, and was with the public service commission of that State for five years. He is a graduate of the Massachusetts Institute of Technology and the University of California.

JOHN GORMAN, for fifteen years an employee of the Citizens Gas & Electric Company, Waterloo, Iowa, has resigned his position and left for Charles City, Mo., where he will become general manager of the light and gas plant. Mr. Gorman started work with the local concern as a laborer, but soon gained recognition and was often promoted. When he resigned he held the position of manager of the new business department.

W. H. BAHAN, of Fort Worth, Texas, was elected president of the Fort Worth Gas Company at a recent meeting of the board of directors. Mr. Bahan, who has been vice-president of the company, succeeds George W. Armstrong. Other officers of the company are O. K. Shannon, vice-president and general manager; J. L. McCown, secretary; R. E. Harding, treasurer; M. J. Adams, assistant secretary-treasurer, and L. E. Barrows, chief engineer. The board of directors is as follows: M. W. Bahan, O. K. Shannon, R. E. Harding and L. E. Barrows, of Fort Worth, and A. B. Flanary, of Dallas. Messrs. Flanary and Barrows are new members of the board of directors. All of the officers are residents of Fort Worth.

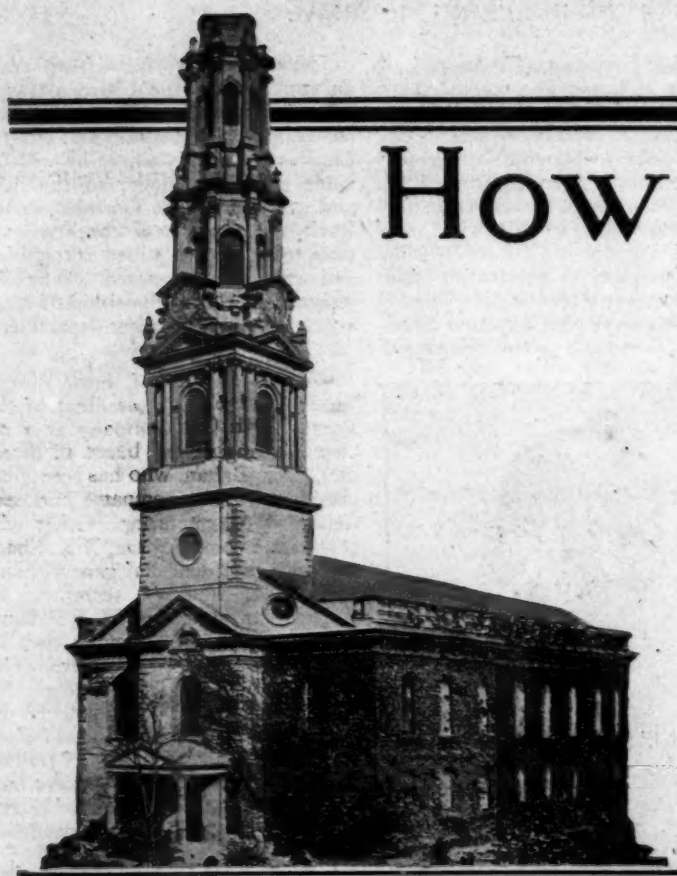
JAMES T. LYNN, of Detroit, Mich., has accepted a position in the Fuel Administration as director of the Bureau of Gas Plants.

E. R. GUARD, manager of the Rock Hill (S. C.) Gas Company, has resigned that position to go with the Johnson Appliance Company, Cedar Rapids, Iowa, effective July 1.

JAMES T. STALLINGS, manager of the Southern Gas Improvement Company at Elizabeth City, N. C., will take charge temporarily of the Rock Hill (S. C.) Gas Company until a new man is secured.

WALTER E. BUSH, 109 Highland Avenue, Jersey City, N. J., has recently been appointed United States buyer for one of the largest importing corporations in Australia.

THE LOWTHER OIL & GAS COMPANY, of Huntington, W. Va., to operate wells in Kentucky and elsewhere; capital stock, $50,000; incorporators, C. F. Lowther, D. V. Lowther, C. N. Davis, S. S. Melvin and M. L. Lowther, all of Huntington.



How to heat

Note—
To commercial managers

THE advertisement below is appearing in the leading religious publications, Protestant, Catholic, Hebrew, as well as general periodicals, like the *Outlook*.

The New Grinnell Ready-Heat System is the coming system for churches.

Since Sunday is probably your lightest load day, you will find a big new market to fill this dent in your load-curve from the hour that Grinnell Ready-Heat is installed in the first church in your city. Its fame will spread; others will follow. Because of its high efficiency in operation an

A CHURCH is the most extravagant, wasteful building in town to heat.

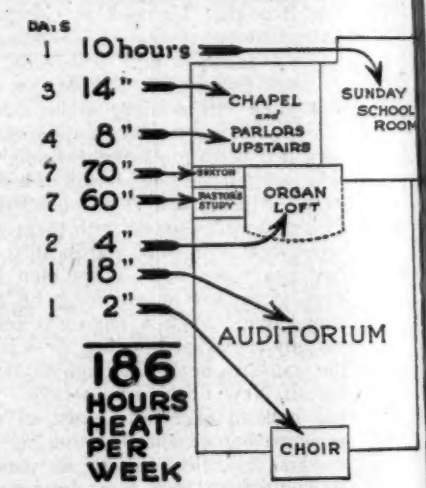
One room in use; others silent, and unused. Wasteful low fire, wasteful forced draft, wasteful banked fire! Simply operating the furnace the worst way possible nearly all the week!

The trouble is that *no furnace* is built to heat different parts of a building intermittently.

When the trustees are hard-headed business men, they see that a furnace, expressly planned to supply heat constantly and *evenly* day and night, cannot be operated intermittently and jerkily, without fearful waste. Therefore they demand a radically different type for heating their church.

The Grinnell Ready-Heat System uses gas in self-regulating and self-ventilating radiators.

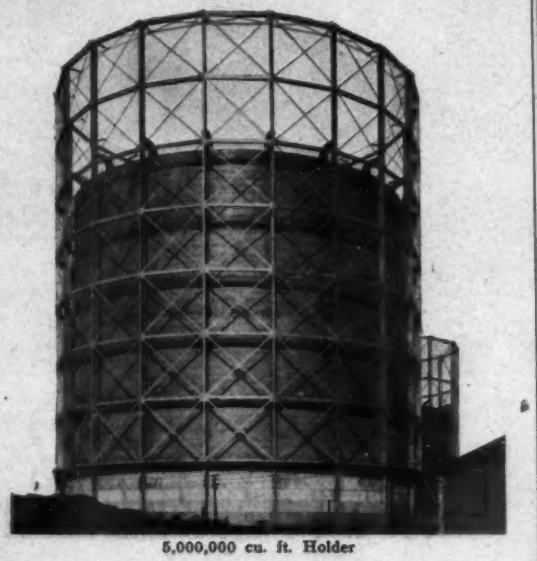
Grinnell Ready-Heat turns itself on only in the room or rooms to be used. By thermostatic control it heats the room



GRINNELL READY

ESTABLISHED 1848

GAS HOLDERS, PURIFIERS, CONDENSERS, SCRUBBERS, GAS WORKS APPARATUS, CAST IRON PIPE AND FITTINGS, GAS PRODUCERS, CENTRIFUGAL PUMPS.

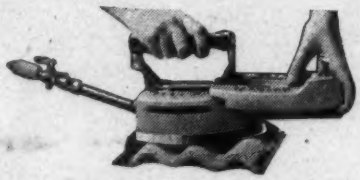


5,000,000 cu. ft. Holder

CAMDEN IRON WORKS, Camden, N. J.

Heulings Lippincott and Alfred J. Major, Receivers

"NU-STYL" Odorless Gas Iron



which by a simple patented slip-on piece may be made two pounds heavier. A new, easy and PROFITABLE seller. For artificial or natural gas. No smell, smoke, soot or headaches. Hale gas mixer, perfect heat control at the iron. Removable torch burner, steel burner screen, no woven wire used. Superior to any gas or electrical iron on the market. Cold hose connections. Write for circular.

Perfect Combustion Co.

Peoples Gas Bldg. Chicago, Ill.

HIGH PRESSURE GOVERNORS

This type of FULTON DUPLEX SENSITIVE GAS GOVERNOR is specially adapted to meet all the requirements where the HIGH PRESSURE system is used.

The power to operate this governor is derived from two diaphragms of equal area, moving in opposite direction, but transmitting their power in the same direction. The lower or primary diaphragm is connected to, and exerts its power directly to, the main valve stem. The upper or secondary diaphragm is connected to, and exerts its power directly to the main lever at such a distance from its fulcrum as to multiply it several times, thus practically increasing the diaphragm surface four or five times, and increasing the power of the governor to control the valves to that extent.

Send for our 52-page illustrated catalog. Over 30 years making Gas Regulators.

The Chaplin-Fulton Manufacturing Company

PITTSBURGH, PENNA.

THE STACEY MANUFACTURING CO.
PLATE AND STRUCTURAL METAL WORK
CINCINNATI, OHIO

WE ARE BUYERS OF

SPENT OXIDE

FROM COAL GAS WORKS

Send us samples and we will make you an offer

Henry Bower Chemical Manufacturing Co.

Gray's Ferry Road and 29th Street, Philadelphia, Pa.

HUB END GAS VALVES

Made Bronze Mounted or All Iron for both High and Low Pressure.

Send for Circular 3

The LUDLOW VALVE MANUFACTURING COMPANY

TROY, N. Y.

New York 62 Gold Street	Boston Oliver Building	Philadelphia Harrison Building
Chicago The Rookery	Pittsburg First Nat. Bank Building	Kansas City R. A. Long Bldg.

C-K CO

GAS HOLDERS

STEEL TANKS

WATER OIL SPECIAL

PLATE WORK

BUNKERS HOPPERS STACKS
FLUES CANALS SPECIAL

STRUCTURAL STEEL

TOWERS TRUSSES SPECIAL

WE ERECT EVERYWHERE

Prompt Delivery Assured By Large Stock Constantly Replenished

Cruse-Kemper Co., Ambler, Pa.

Engineers—Contractors—Manufacturers

Cable: Cruskemper Ambler, Western Union Code

MR. GAS MANUFACTURER

It is tremendously vital to your interest to immediately investigate the following distinct advantages possessed by an installation of

Glover-West System of Continuous Carbonization in Vertical Retorts

Do you know that WATER GAS can be PRODUCED and ENRICHED in this type retort with our patented enriching device, cutting out costly operation of water gas sets in localities demanding a high candle power gas.

Think of a plant capable of producing **250,000** cubic feet per man per 12 hours, on minimum area, where the coal is fed direct and continuously by gravity from overhead bunkers eliminating the hot and laborious job of intermittently charging retorts by hand, producing the largest yield of uniform composition gas of constant candle-power and heating value per ton of coal carbonized, utilizing heat of residual coke so that coke is discharged in a cool state, eliminating all smoke, dust and steam nuisance, a plant with great flexibility of output by just varying travel of coal through retorts. No plant has too small a productive capacity, as system can be built in units as small as 125,000 cubic feet per diem.

These facts are absolute fortification against labor difficulties
Think it over and let us send you further particulars

Engineers Contractors **DIDIER-MARCH CO.,** PERTH AMBOY NEW JERSEY Manufacturers of High Grade Refractories

J. S. DE HART, JR.
President

R. K. WEHNER
Treasurer

ISBELL-PORTER COMPANY

Gas Engineers and Builders of Gas Works

HORIZONTAL AND VERTICAL BENCHES

CHARGING AND DISCHARGING MACHINERY

COKE CONVEYORS AND COKE SIZING PLANTS

MACKENZIE EXHAUSTERS GOVERNORS AND COMPENSATORS

UNGER AMMONIA STILLS

ISBELL VALVES SPECIALS

TAR EXTRACTORS

PRIMARY AND SECONDARY CONDENSERS FOR FRESH OR SALT WATER

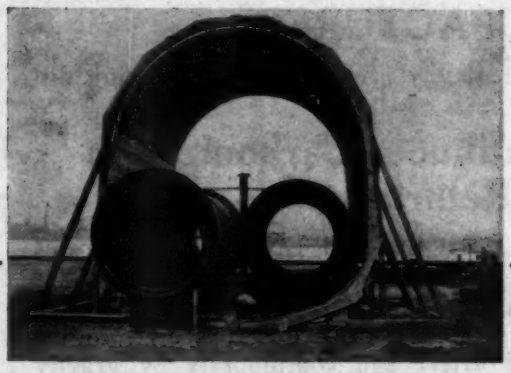
ROTARY AMMONIA SCRUBBERS GAS GOVERNORS

SHAVING SCRUBBERS PURIFIERS

Main Office and Works: Bridge and Ogden Streets

NEWARK, N. J.

ESTABLISHED 1865



Model of Astoria Tunnel with 72-inch Gas Pipe in Place

U. S. CAST IRON GAS PIPE

In the Astoria Tunnel

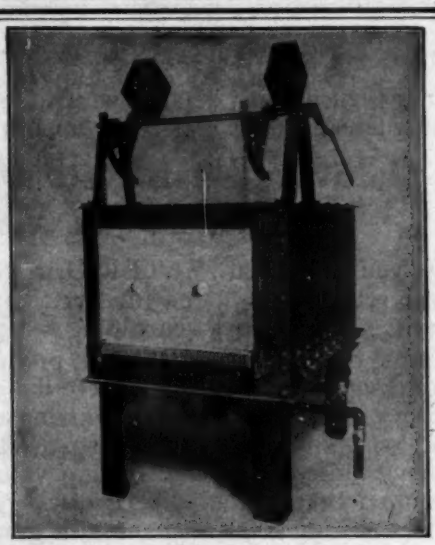
Two lines of "The Pipe That Outlasts The Ages" were laid side by side as shown in the picture.

Cast Iron pipe has a record of 250 years of excellent service. The first length of cast iron pipe ever made is still in use. The first piece of cast iron pipe ever laid in this country is still in use.

Don't overlook these facts when deciding upon the pipe for your next extensions or new gas mains.

UNITED STATES CAST IRON PIPE AND FOUNDRY COMPANY

724 E. Pearl Street, Burlington, N. J.



Oven Furnace for Hardening or Annealing

RESULTS COUNT

AMERICAN GAS FURNACES and HEATING MACHINES give results THAT COUNT.

THEY are ECONOMICAL to operate.

Give uniform temperatures of the material, a larger and better Product, and have many other advantages over other makes.

A Trial of any of our APPLIANCES will convince you.

AMERICAN GAS FURNACE CO.

GAS ENGINEERS AND MANUFACTURERS

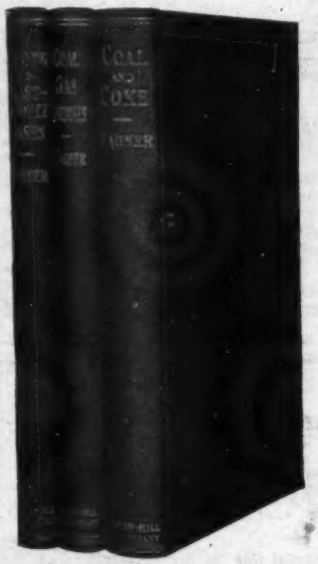
John Street New York City

Getting the Most Out of Coal

FREDERICK H. WAGNER has probably contributed more to coal gas literature than any other American author of recent times. Here are three of his works that you can obtain from the AMERICAN GAS ENGINEERING JOURNAL. Perhaps all or one of them will supply you with certain information of which you are greatly in need. The contents are:

COAL AND COKE. 431 pages, 6 x 9, 137 illustrations. Price $4.00 net, postpaid.

A complete treatise prepared to give the student of coal-gas production data in concise form covering the various systems of coal carbonization. While written from an engineering viewpoint, the book contains sufficient scientific data to make a thorough presentation of the subject.



Part I, on coal, covers the origin, classification, combustion, distillation, analysis, preparation and storage.

Part II covers the process of coke-making, the by-products derived, and full descriptions of the types of coke ovens and retorts.

Contents: Part I—Coal. I, Origin and Classification of Coal; II, Oxidation and Spontaneous Combustion; III, Coking and Gas Coals; IV, Analyzing Coal; V, Preparation and Storage of Coal. Part II—Coke. VI, Carbonization in Retort Benches; VII, Combustion and the Heating of Settings; VIII, Flue Gases; IX, Pyrometry; X, Euchenes Thermic Reactions; XI, Carbonization in Ovens; XII, Chamber Ovens; XIII, Low Temperature Carbonization; XIV, Power Production with Waste Heat; XV, Coke.

COAL GAS RESIDUALS. 174 pages, 6 x 9, 44 illustrations, 10 charts. $2.00 (8/4) net, postpaid.

The first book to describe in detail the European methods of utilizing coal gas residuals and to explain how they can be applied to American conditions—a work of vital importance to gas companies, chemical engineers, etc.

The book is a complete discussion of the Feld theory and practice. It gives full details of standard methods and the latest developments.

The author has made thorough investigations of his subject because of the lack of general information on this subject in America, and the consequent waste of natural resources. His work is especially timely.

He treats all residuals except coke, which he plans to discuss later in a separate volume.

Contents: I, Tar; II, Naphthalene; III, Cyanogen; IV, Ammonia; V, Benzol; VI, Tests.

THE CLEANING OF BLAST-FURNACE GASES. 168 pages, 6 x 9, 58 illustrations, $2.00 (8/4) net, postpaid.

The information available on the cleaning of blast-furnace gases has been fragmentary and widely scattered. Much has appeared in periodicals on such subjects as the economy of using waste gases, and their vital importance to the steel industry. Mr. Wagner brings together the latest developments covering the various methods in all their essential details.

Contents: I, The Theory of Condensation or Cooling; II, Primary Cleaning—First Stage: Dry Dust Catchers; III, Second Stage: Wet Cleaning, or Cooling. IV, Third Stage: Final Cleaning; V, The Dry System for Final Cleaning; VI, Operative Plants in America; VII, The Storage of Gas.

FOR SALE BY

American Gas Engineering Journal

42 Pine Street, NEW YORK

ROOTS

High Pressure Gas Booster

Featuring the engine drive through a ROOTS Flexible Coupling. Its service is as steady as its construction is sturdy.

ROOTS

Your Installation

requires special consideration. Our staff of Engineers is at your service.

P. H. & F. M. ROOTS COMPANY

Connersville, Ind.

Chicago Office, Peoples Gas Bldg. — New York Office, 120-122 Liberty St.

"EVERYTHING FOR A GAS PLANT"

The Western Gas Construction Co.

Fort Wayne, Ind.

No Work Too Special
No Demands Too Exacting

LET US SERVE YOU

ANYTHING AND EVERYTHING FOR THE MANUFACTURE AND DISTRIBUTION OF GAS

IRON SPONGE
Gas Purifying Material

GOVERNORS
1. Station — Automatic, Balance
2. District — Liquid Seal, High Pressure, Intermediate Pressure, Low Pressure
3. Retort House
4. Fuel Gas or Coke Oven
5. Bypass or Reverse Flow
6. Service — Liquid Seal, High Pressure, Intermediate Pressure, Low Pressure

Unison Telemetric Pressure Gauge
Exhausters and Boosters
Gas Testers
Photometers (Jet)
Lockwood Safety Valve
Back Pressure Valve
Gas-Tar Separators and Burners
Respirating and First Aid Outfits
Pressure Gauges, (Syphon Pocket, Thrope, and Differential)
Meter Reading, Trouble and Trench Lamps
Hand Lamps, with unbreakable storage batteries
Universal Safety Lamps (Like miners' Lanterns)
Thermometers, Barometers, Pyrometers
Tools, Street Dep't Requisites

Connelly Iron Sponge and Governor Co.

NEW YORK, 227 Fulton St. — CHICAGO, 1000 W. 22d St. — CAMBRIDGE, MASS., 8 Dana St.

The Book You Need—Have You Got It?

OPERATION OF GAS WORKS

By Walter M. Russell

Manager, Emporia Gas Company; Member American Gas Institute and National Commercial Gas Association.

The first book to cover both coal and water gas plant operation and management as practised in America.

Every manager, superintendent, engineer and foreman should have his own copy—for the questions which arise every day are treated in a concise and practical way.

The author has had a broad experience in the management of small and medium sized gas works and has been a close observer and student of the methods used in other plants. This book embodies the results of his experience and studies.

You may readily apply this knowledge which is placed at your disposal in accomplishing more efficient operation of your plant.

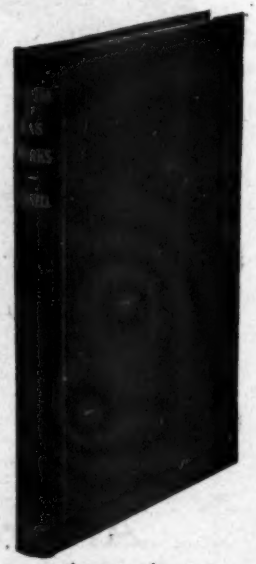
Send for it now by clipping this coupon

American Gas Engineering Journal,
42 Pine Street, New York, N. Y.

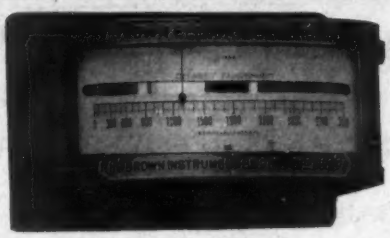
Please send me postpaid one "Operation of Gas Works," by Walter M. Russell, for which I enclose herewith $2.00.

Name .....

Address .....



206 pages, 6 x 9
76 illustrations
$2.00 net, postpaid



Equip Superheaters With

Brown Pyrometers and profit by an accurate control of the temperatures. For water gas sets keep superheaters around 1300°. You then produce better gas with less lampblack and less napthalene.
Write to the Brown Instrument Co., Philadelphia, or one of their district offices in New York, Pittsburgh, Detroit, Chicago, Denver, San Francisco or Los Angeles for complete information now.

Brown Pyrometers

GAS HOLDERS

Steel Tanks

Machinery

FOR

Coal and Water Gas Plants

DAVIS & FARNUM MFG. CO.
Waltham, Mass.

SEND FOR CATALOGUE

Gas Street Lighting Talks No. 4

In the words of the President of the N. E. L. A., " Light for our streets and homes provides the most effective protection against disorder and crime which the unsettled condition may incur."

As manufacturers of the most dependable illuminant known, Gas Companies must recognize public lighting as a patriotic duty in these times. Homes and industries must be protected—" do your bit " with us in demonstrating that protection is positive where gas lighting prevails.

Welsbach Street Lighting Company of America
1934 Market Street :: :: :: Philadelphia

What Is Quality?

In Paint It Is Dependability—Economy

DIXON'S SILICA GRAPHITE PAINT

Dixon's Silica-Graphite Paint is said by users to be the long service paint for protection of metal and wood surfaces. Made for over 50 years in FIRST QUALITY only, which is a guarantee of satisfaction and reliance.

If interested, let us send you convincing proofs, and Booklet No. 231B.

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE COMPANY

Established 1827

LEWIS-VINCENT

Consulting Gas Engineer

GAS PLANTS, RECOVERY PLANTS
GAS HOLDERS

Design—Construction—Valuation
Reports — Inspections

7058-7060 Jenkins Arcade

PITTSBURGH

H. M. Byllesby & Company

(INCORPORATED)

NEW YORK—Trinity Bldg. TACOMA—Washington
CHICAGO—Continental and Commercial Bank Bldg.

PURCHASE, FINANCE, CONSTRUCT AND OPERATE ELECTRIC LIGHT, GAS, STREET RAILWAY AND WATER POWER PROPERTIES

EXAMINATIONS AND REPORTS

UTILITY SECURITIES BOUGHT AND SOLD

William E. Barrett

Consulting Gas Engineer

ARTIFICIAL GAS—NATURAL GAS

Design, Construction, Valuation, Reports

HIGHEST EFFICIENCY IN OPERATION

Wall Street Exchange Building
43-49 EXCHANGE PLACE, - NEW YORK CITY

WILLIAM A. BAEHR

Consulting Engineer

GAS AND ELECTRIC PLANTS

Design, Construction and Operation
Valuations and Reports

PEOPLES GAS BUILDING, CHICAGO

Handbook of Cost Data

By H. P. GILLETTE. 1,854 pages. $5.

A reference book giving methods of construction and actual costs of material, labor and equipment on all classes of civil engineering and works. Divided into sections under following heads: Principles of Engineering Economics and Cost Keeping—Earth Excavation—Rock Excavation—Roads, Pavements and Walks—Stone Masonry—Concrete and Reinforced Concrete Construction—Water Works—Sewers—Timber Work—Buildings—Railways—Bridges and Culverts—Steel and Iron Construction—Engineering and Surveys—Miscellaneous Cost Data.

FOR SALE BY

AMERICAN GAS ENGINEERING JOURNAL
42 PINE STREET, NEW YORK CITY.

The Parker-Russell Mining & Mfg. Co.

OAK HILL GAS RETORT AND FIRE BRICK WORKS

Builders of Complete Coal Carbonizing Plants

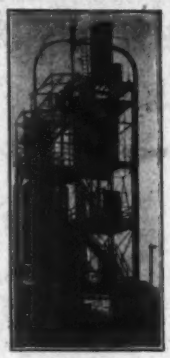
BENCHES

Laclede Gas Building
SAINT LOUIS

WHY NOT BUY ON A
QUALITY
BASIS

Any and every condition of tax and load on your purifying capacity has been adequately provided for in the various grades of Iron Hydroxide.

IRON HYDROXIDE now used in 291 gas works
QUALITY EXPLAINS WHY
IRON HYDROXIDE COMPANY
PASCHALL STATION, PHILADELPHIA, PA.



The
"Given" Sulphur Extractor
for the
Reclamation of Spent Oxide and the Production of Crude Sulphur
For particulars write
Stevens-Aylsworth Co., 253 Broadway New York

TO FACILITATE HANDLING
ULCO LEAD WOOL
IS PUT UP
IN ROPE FORM
United Lead Company
111 BROADWAY, NEW YORK
Offices in All Principal Cities

IT'S NOT AN OBLIGATION

but it's advantageous to you, to the advertiser, and to the JOURNAL, if you will refer to advertisements in the

AMERICAN GAS ENGINEERING JOURNAL

when you write to advertisers for prices, information or literature.

CABLE ADDRESS: WILDOLPH, NEW YORK
WILLIAM W. RANDOLPH, M.E.
Consulting Engineer
233 BROADWAY NEW YORK CITY

EXAMINATION *and* VALUATION *of* PUBLIC UTILITY *and* POWER CORPORATIONS
ADVICE AS TO CONSTRUCTION *and* MANAGEMENT

ALEX. C. HUMPHREYS, *President*
ALTEN S. MILLER, *Vice-President*
EMILE GUILLAUDEU, *Treasurer*
ROBERT O. LUQUEER, *Secretary*

HUMPHREYS & MILLER
INCORPORATED
165 BROADWAY, NEW YORK
CONSULTING ENGINEERS

ARTIFICIAL GAS
NATURAL GAS
ELECTRICITY
OPERATORS
CONSTRUCTORS
APPRAISERS

Famine, Pestilence, War
and
"Bum" Elevators

Are the four awful enemies of the Human Race.
Commerce has driven away Famine.
Science has driven away Pestilence.
Religion will drive away War.
And **"Old Hook 'er to the Biler"** is busy right now eradicating the Cheap and Dangerous "Bum" elevator—
The kind you are thinking about buying and probably will buy if you are so unlucky as to have an engineer who is not up to date or "up to snuff."
The railroads and the steamships have killed the Famines.
The doctors and the chemists have killed the Pestilence.
The Young Men's Christian Association with the Gospel of Brotherhood in Jesus Christ is going to kill the Wars.
—But speaking of elevators, just now, when you interrupted us—
Don't you think even if your poor old engineer is such a "DEAD ONE" and out of touch with what is going on that when 2,000 and more concerns like these

Standard Oil Co.	H. J. Heinz. "57"	Int. Paper Co.
Yale & Towne Mfg. Co.	International H'v'st'r Co.	Diamond Match Co.
Cluett, Peabody & Co.	John Wanamaker	General Electric Co.
United Gas Imp. Co.	Remington Typew't'r Co.	Packard Motor Car Co.
National Cash Register Co.	Continental Gin Co.	Continental Can Co.
Hammermill Paper Co.	Erie Railroad Co.	Solvay Process Co.
Procter & Gamble Co.	Crane & Co. (Dalton)	John Morrell & Co.

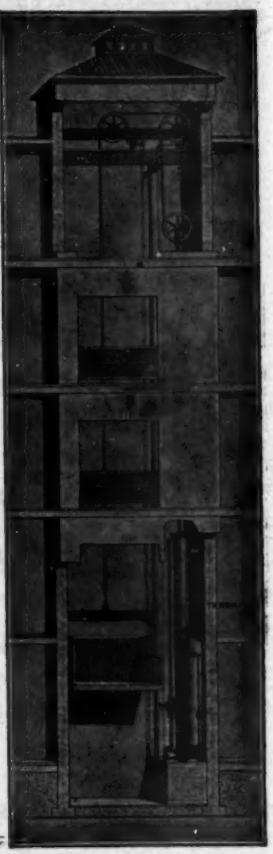
are busy equipping their plants with Ridgway Elevators that you, too, ought to find out what it means to

"Hook 'er to the Biler"

CRAIG RIDGWAY & SONS Coatesville, Pa.
ELEVATOR MAKERS TO FOLKS WHO KNOW

Direct Acting
Over 2000 in Daily Use

Double Geared



SOME WAR FACTS ABOUT

The Welsbach "C.E-Z" Gas Light

The U. S. Government is asking the public to "Burn gas in mantles, not in flat-flame burners." The object of this appeal is, of course, the saving in gas—consequently the saving of coal and oil.

Most flat-flame burners are in homes. The Welsbach "C.E-Z" Gas Light offers the householder the most economical and adaptable means of complying with the government's request.

In communities where winter and war have encumbered gas service with perplexing troubles the "C.E-Z" has proven to be the most dependable home light in existence—continuing to give good light when other kinds of lights have failed.

The "C.E-Z" offers the gas company a means of supplying good lighting under the most harassing conditions.

It is the consumer's most dependable light for saving coal by saving gas. It is a most helpful item in the consumer's effort to practice thrift.

The "C.E-Z" is good business insurance for coming day of peace

GLOUCESTER **WELSBACH COMPANY** NEW JERSEY

ESTABLISHED 1842 BUILDERS OF INCORPORATED 1908

GAS HOLDERS

DEILY & FOWLER MFG. CO.

39 Laurel Street, Philadelphia, Pa.

OCEAN
WESTMORELAND
GAS
COAL

The uniformity and quality are backed by the service of our organization.
We mine—we ship—we serve.

The Berwind White Coal Mining Company

A. C. M. AZOY
General Agent and Manager
Gas Coal Department

No. 1 Broadway, New York City
AND
Commercial Trust Bldg., Philadelphia

R. D. WOOD & CO.

400 CHESTNUT STREET, PHILADELPHIA

MANUFACTURERS OF

Cast Iron Pipe

HEAVY LOAM CASTINGS

Dunham Specials
Hydraulic Work

LAMP POSTS, VALVES, ETC.

Gas Power Plants with Producers

BUILDERS OF

Gasholders

Single or Multiple Lifts, with or without Metal Tanks

Purifiers, Condensers
Scrubbers, Bench Work

Cutler's Patent Freezing Preventer for Holder Cups

ONE OF TWO TEN MILLION (10,000,000) CUBIC FEET CAPACITY

GAS HOLDERS

BUILT BY

THE BARTLETT HAYWARD CO.

BALTIMORE NEW YORK

a church

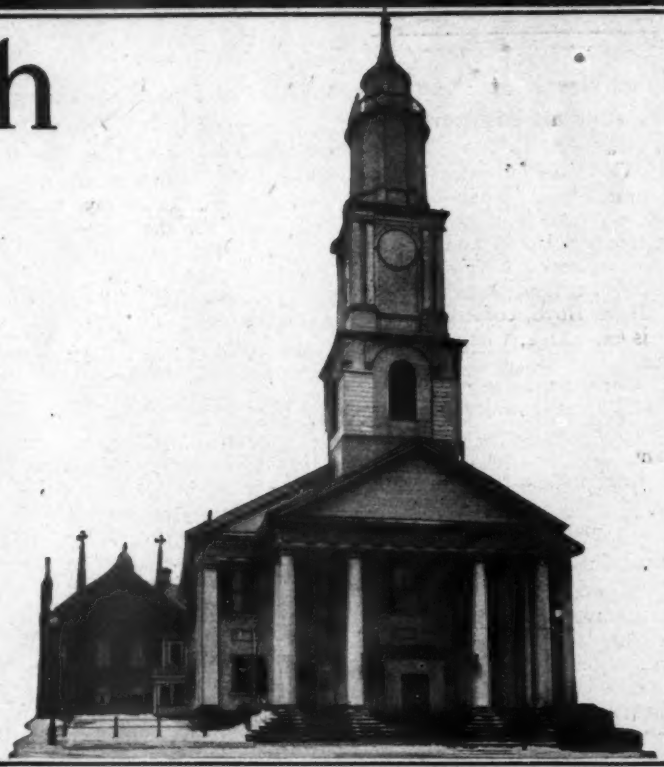
of all gas companies

increase in the size of the service-pipes or meters will seldom be found necessary, and, therefore, no additional investment is required.

Through these advertisements the clergy and trustees of the churches of your city will be receptive when you approach them on the subject.

We are also advertising to architects the value and economy of Grinnell Ready-Heat for all buildings intermittently heated.

Let us cooperate with you. Write for booklet.



quickly to any desired temperature and holds it there, without any further attention.

MARK THIS: Grinnell Ready-Heat is not like any other form of gas-heating. As a matter of fact, it is the most hygienic of any form of heating, because all the products of combustion are drawn into a central flue and carried away. The pastor's residence, church-house, etc., at a distance, can be connected to the same duct.

Its ease of operation, its cleanliness, the fact it releases basements for other uses than the storage of coal and ashes, make it an ideal system for many business-buildings and residences.

Let our experts submit you a heating-plan. Write for booklet and give us kind and size of your present heating system, size of building, with full information as to number of hours per week the different rooms are used.

Address the General Fire Extinguisher Company, Providence, R. I.

Six Advantages

1. Grinnell Ready-Heat is cheaper to install because expensive boilers and furnaces are not required.

2. Cheaper to operate, since even an unskilled person can run the system; no ashes to dispose of.

3. Gas bills are generally less than coal bills.

4. Always ready for instant use.

5. Automatically regulates temperature at any desired degree in any room.

6. Leaves basement entirely unobstructed and free for other uses than the storage of coal, etc.

GRINNELL READY HEAT RADIATORS Reg. U. S. Pat. Off.

Keep the Air Pure

HEAT RADIATORS

Construction Notes

Second New Unit Being Installed at Brainerd

The Brainerd (Minn.) Gas & Electric Company is installing its second unit, having boiler and shell work in. A special size firebrick is coming from St. Louis and construction work awaits its arrival. Packing, valves, fittings, etc., have arrived. H. S. Boyd, constructing engineer, is in charge, with a crew of five men.

J. H. Viereg, superintendent, came from St. Cloud to view construction.

A. B. Willing, superintendent of the plant, has a crew laying mains and putting in new service connections.

Beatrice Plant Reopens

The Gage County Gas Light & Power Company, of Beatrice, Neb., which closed down June 12 because the city commissioners refused it a 20 per cent increase in rates, made a satisfactory agreement with the commissioners June 16. The increase will be granted the company until Oct. 1, and in the meantime the city will check up the books of the company. If it is found that the company is not entitled to the raise, it is to refund the consumers the extra charges for the four months.

Sale of Miami Plant Approved

The Ohio Public Utilities Commission has approved the sale of the property of the Miami Valley Gas & Fuel Company to the Ohio Fuel Supply Company at the agreed price of $312,500.

Memphis Company Enlarging Plant to Increase Production of Toluol

The Memphis Gas & Electric Company, Memphis, Tenn., is installing a light oil plant to provide toluol to the explosive section of the Government. The company has also awarded a contract to the Gas Machinery Company, Cleveland, Ohio, for the installation of twenty-seven inclined gas ovens, exhausting, condensing and scrubbing machinery, ammonia plant and auxiliary machinery.

This plant will carbonize west Kentucky coal, which is conveniently located to Memphis, and the installation is therefore of exceptional importance and essential to national welfare.

Work of Doubling Capacity of Sturgis Plant to Begin Soon

A new section will be added to the big holder at the plant of the Sturgis (Mich.) Gas Company, without interfering with the commission of the container in supplying the regular service in the city.

The new lift will be 60 x 20 in size and will be built on top of the present holder. New steel sides will be constructed and the material for the work is now being punched in Sturgis. The old roof of the holder will be used as the cover for the new section and the additional lift will also give increased pressure and much better service. The improvement will cost about $10,000 and with the installation of a new set of retorts, will give the plant a capacity of 100,000 cu. ft. of gas.

The work will be in charge of Manager McCallister and Engineer Birbeck, of Kalamazoo. The steel sides will be riveted and sunk in sections in the water of the holder, the top will then be placed in position and the new section will be ready to hold the gas, giving an increased capacity of about 50,000 cu. ft. and a total of 100,000 ft., affording a twofold purpose of better gas and better service. It will take about five weeks to make the change while the plant is in operation.

New Gas Plant to Be Built at Bath, Me.

A new gas plant is to be installed by the Bath (Me.) & Brunswick Light & Power Company and its service extended. With this end in view a new gas-making equipment has been ordered, the contract having just been closed with the American Gas Construction Company, Newton, Iowa. The equipment consists of a No. 5 Tenney-Lowe process carburetted water gas set, including generator, waste heat boiler, condenser, hydraulic seal and scrubber, gas and oil storage tanks, air compressor compressor complete, to be installed ready to operate, on or before Oct. 29, 1918.

The present gas house will be raised another story and all the buildings remodeled, with ample space provided for further growth if necessary. The old coal gas apparatus will be overhauled and reserved for emergency service, and the entire property greatly improved.

This apparatus will overcome the greater part of the labor proposition which has been a severe handicap to the company in its manufacture of gas throughout the renewed activity in Bath shipyards. According to George S. Williams, general superintendent of the company, it has been absolutely impossible to obtain men. Under the new process one man will be able to manufacture 12,000 cu. ft. of gas per hour.

In order to carry out its program of giving Bath subscribers a better gas service than they have ever known, the expenditure of several thousands dollars will be necessary. Arrangements for the work have been practically completed, however, living quarters having been established at the power station for a foreman and sixteen laborers during the construction and installation of the new service. Several thousand feet of 2 and 4- in. gas main have been ordered that repairs may be made immediately so that practically all the outside distributing mains may be relaid before the new plant is installed in order to cut down leakage and have the mains ready to do their part in giving good gas service together with the new plant.

Municipal Plant at Holyoke to Double Capacity

Manager John J. Kirkpatrick, of the city of Holyoke Gas & Electric Department, plans to double the capacity of the water gas plant. Bids were advertised for recently for labor and material to construct the addition to the water gas set.

The capacity of the plant at present is 600,000 cu. ft. a day and it is planned to give it a capacity of 1,200,000 cu. ft. a day.

New Pumping Station for Bigheart

Excavating is under way for the new water pump station at the Bigheart, Okla., gas compressing station. B. H. Todd, of the construction department, is in charge of the work.

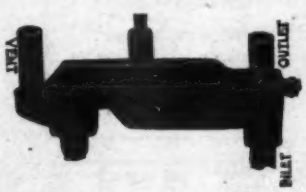
THE LONE STAR GAS COMPANY has declared the regular quarterly dividend of 2 per cent, payable July 1 to stock of record June 22.

RITER-CONLEY COMPANY

STEEL CONSTRUCTION

PITTSBURGH

HIGH PRESSURE



COMBINATION STYLE
(With Mercury Seal)

Pacific Coast Representative
C. B. BABCOCK CO.
No. 768 Mission Street
San Francisco

REYNOLD'S

ARTIFICIAL GAS GOVERNORS

AND

NATURAL GAS REGULATORS

For All Kinds of Pressure Reduction

WRITE FOR CATALOG

REYNOLD'S GAS REGULATOR CO.

SERVICE GOVERNORS

"OLD STYLE"
(Without Seal)

Main Office and Works
ANDERSON, INDIANA

Technical Gas and Fuel Analysis

By ALFRED H. WHITE
Professor of Chemical Engineering, University of Michigan

276 pages, 5½ x 8 47 illustrations $2.00 (8/4) net, postpaid

A comprehensive treatment of fundamental principles, apparatus and methods

It recognizes the increased demand for the economic utilization of fuels and the necessity for accuracy in testing both the raw fuel and the manner of its utilization.

Prof. White has conducted a great amount of research work, been actively engaged in commercial testing and made a thorough study of the reports, literature, etc. He has devoted a great deal of study to the recent investigations of the scientific societies. He presents the conclusions of their committees and also indicates where there has been marked dissent from them.

The work is based on a series of notes which the author has used in his classes at the University of Michigan.

The contents include: I. Sampling and Storage of Gases; II. General Methods of Technical Gas Analysis; III. Absorption Methods for Carbon Dioxide, Unsaturated Hydrocarbons, Oxygen, Carbon Monoxide and Hydrogen; IV. Explosion and Combustion Methods for Hydrogen, Methane, Ethane and Carbon Monoxide; V. Various Types of Apparatus for Technical Gas Analysis; VI. Exact Gas Analysis; VII. Heating Value of Gas; VIII. Candle-Power of Illuminating Gas; IX. Estimation of Suspended Particles in Gas; X. Chimney Gas; XI. Producer Gas; XII. Illuminating Gas and Natural Gas; XIII. Liquid Fuels; XIV. Sampling Coal; XV. The Chemical Analysis of Coal; XVI. Heating Value of Coal by the Bomb Calorimeter; XVII. Heating Value of Coal by the Parr Calorimeter and Other Methods; Appendix; Tables.

On sale by the AMERICAN GAS ENGINEERING JOURNAL.

Use this coupon in ordering

AMERICAN GAS ENGINEERING JOURNAL,
42 Pine Street, New York, N. Y.

Please send me postpaid one "Technical Gas and Fuel Analysis," by Alfred H. White, for which I enclose herewith $2.00.

Name .....

Address .....

ALPHABETICAL LIST OF ADVERTISERS

American Gas Furnace Co..... 6
American Meter Co..... 26
American Water Heater Co..... —

Badger & Sons Co., E. B..... —
Baehr, Wm. A..... 10
Barrett, William E..... 10
Bartlett-Hayward Co. 14
Berwind-White Coal MiningCo..... 18
Bower, Henry, Chemical Mfg. Co..... 4
Brown Instrument Co..... 9
Buyers' Reference Index.....22 and 24
Byllesby & Co., H. M..... 10

Camden Iron Works..... 3
Cast Iron Pipe Pub. Bureau...Front Cover
Chaplin-Fulton Mfg. Co..... 3
Clow & Sons, Jas. B..... —
Connelly Iron Sponge & Governor Co., 8 and 21

Cruse-Kemper Co. 5

Davis & Farnum Mfg. Co..... 9
Deily & Fowler Mfg. Co..... 18
Didier-March Co. 5
Dixon Crucible Co., Jos..... 10
Donaldson Iron Co..... 23

Foxboro Co., Inc..... —

Gardner, Jr., Co., James..... 23
Gas Machinery Co..... 2
Gautier & Co., J. H..... 5
General Fire Extinguisher Co...16 and 17
General Gas Light Co..... —
Gerould, C. L..... 25
Griffin & Co., John.....Fourth Cover

Helme & McIlhenny..... 26
Humphreys & Miller..... 11

Improved Equipment Co..... 26
Iron Hydroxide Co..... 11
Isbell-Porter Co. 6

Keller, C. M..... 21
Koppers Co., H. ..... —

Ludlow Valve Mfg. Co..... 5
Long-Landreth-Schneider Co. ..... —

Machinery Utilities Co..... 21
Maryland Meter Works..... 27
Maurer & Son, H..... 21
McDonald & Co., D..... 27
Michigan Ammonia Works..... 21
Miner, Thos. T. W..... 25
Missouri Firebrick Co..... 23

Parker-Russell Mining & Mfg. Co.... 10
Pennsylvania Salt Mfg. Co..... —
Perfect Combustion Co..... 3
Pittsburgh Meter Co..... 25
Polk, Roger W..... —

Quigley Furnace Specialties Co..... —

Randolph, W. W..... 11
Reynolds Gas Regulator Co..... 19
Ridgway & Sons, Craig..... 12
Riter-Conley Mfg. Co..... 19
Roots Co., P. H. & F. M..... 8
Russell Engineering Co..... 23

Safety Gas Main Stopper Co..... 25
Sprague Meter Co. 27
Stacey Bros. Gas Construction Co..... 23
Stacey Mfg. Co..... 4
Stevens-Aylsworth Co. 11

United Gas Improvement Co..... 2
United Lead Co..... 11
U. S. Cast Iron Pipe & Foundry Co... 6

Vincent, Lewis 10

Welsbach Co. 12
Welsbach Street Lighting Co..... 9
Western Gas Construction Co..... 8
Westmoreland Coal Co..... 23
Wolff Radiator Co., A. H..... —
Wood & Co., R. D..... 18

CLASSIFIED ADVERTISEMENTS

Rate at **$2.00** per inch for first insertion, **$1.50** per inch for each additional insertion of same copy. Positions wanted—**$1.00** per issue.

POSITIONS OPEN

WANTED—Gas Meter setters and repair men, in city of 25,000 in New York State. Good wages, good hours and good opportunity. Apply Central Hudson Gas & Electric Company, Newburgh, N. Y. 6-22-2

WANTED—Meter repairer for six weeks to two months this summer. Good climate for man afflicted with hay fever. Address Sault Ste. Marie Gas & Electric Company, Sault Ste. Marie, Mich. 6-22-3

DIVIDEND NOTICE

OFFICE OF THE UNITED GAS IMPROVEMENT CO.
N.W. Corner Broad and Arch Streets
Philadelphia, June 12, 1918.

The Directors have this day declared a quarterly dividend of two per cent ($1.00 per share), payable July 15, 1918, to stockholders of record at the close of business June 29, 1918. Checks will be mailed.

6-22-4 I. W. MORRIS, Treasurer.

KELLER ADJUSTABLE COKE CRUSHER

Strong, Simple, Durable. Will Crush any Size Desired.

C. M. KELLER
COLUMBUS, IND.
Correspondence Solicited

FOR SALE

FOR SALE—120,000 cu. ft., two lift storage holder, first-class condition. Immediate delivery. Peoples Light Company, Davenport, Iowa. 3-16-t.f.

FOR SALE—1,200 ft. of 18" B. & S. gas pipe and 6 drop pots. 'X.' Address Box 103, care of the AMERICAN GAS ENGINEERING JOURNAL. 6-29-1

MISCELLANEOUS

WANT TO BUY

One 4' U. G. I. Water Gas Set complete. State price and condition of machine.
LACONIA GAS & ELECTRIC CO.,
Laconia, N. H.
6-15-4

ESTABLISHED 1856

HENRY MAURER & SON

Manufacturers of

High Grade Firebrick, Blocks, Tiles, Etc.

WORKS: MAURER, N. J.
OFFICE: 420 E. 23d ST. N. Y. CITY

POSITION WANTED

WANTED—A position in Coke Oven plant where the light oils are recovered and refined. Am a technical graduate with practical experience as superintendent and results man in coal and water gas plants. Address Box 104, care of the AMERICAN GAS ENGINEERING JOURNAL. 6-29-1

WANTED—Position as Superintendent of coal or water gas plant; at present employed; best of references. Detail information given on request. Address Box 105, care of the AMERICAN GAS ENGINEERING JOURNAL. 6-29-1

WANTED—Competent manager-superintendent of proven ability and experience, continuously employed for 15 years, wants a position paying more salary. An American, age 35 and married. Has managed and operated gas properties with entire success in four States. Has handled coal, water and by-product gases. References and testimonials. Address "Qualified," Box 106, care of the AMERICAN GAS ENGINEERING JOURNAL.

UTILIZE YOUR GAS LIQUOR

NO EXTRA LABOR OR OPERATING EXPENSES

IMPROVED AMMONIA CONCENTRATOR

About 130 in use. Write to

STROH & OSIUS, Patentees, or
MICHIGAN AMMONIA WORKS, Detroit, Mich.

To the Alert Gas Man

the advertising pages are as interesting as the text pages. He realizes that a knowledge of the tools of his trade is as important as the theories that underlie it and the practices upon which it is founded. That is why he carefully scans each new advertisement and often re-reads each veteran. Do you?

Machinery Utilities Co.
501 5th Ave.
Cor. 42nd St.
NEW YORK

Serviceable Idle Apparatus Wanted and For Sale

PURIFYING MATERIAL, — BAGGED OR BULK
Manufacturers of GAS WORKS APPARATUS and EQUIPMENT

IRON SPONGE

Connelly Iron Sponge and Governor Co.
New York, Chicago
U.S.A.

Buyers' Reference Index

See page 20 for Advertisements of these Products

AMMONIA CONCENTRATORS
Bartlett-Hayward Co.
Gas Machinery Co.
Isbell Porter Co.
H. Koppers Co.
Michigan Ammonia Works.
Western Gas Construction Co.

ANNEALING MACHINES
Rotary
American Gas Furnace Co.

APPARATUS
See Coal Gas Plants.
Conveyors.
Gas Testing.
Stoking Machinery.
Water Gas Plants.

ARC LAMPS
See Lamps.

AUTOMATIC HEAT CONTROLLER AND REGULATORS
American Gas Furnace Co.
Brown Instrument Co.

BACKFILLERS
Parsons Co., The.

BAGS
Gas
American Meter Co.
Connelly Iron Sponge & Gov. Co.
See also Stoppers.

BENCHES
Complete
Bartlett-Hayward Co.
Davis & Farnum Mfg. Co.
Didier-March Co.
Gardner, Jr., Co., James.
Gas Machinery Co.
Gautier & Co., J. H.
Improved Equipment Co.
Isbell-Porter Co.
Missouri Firebrick Co.
Parker-Russell Mining & Manufacturing Co.
Russell Engineering Co.
Stacey Brothers Gas Constr. Co.
Western Gas Construction Co.
Wood & Co., R. D.

BENCH IRON WORK
Bartlett-Hayward Co.
Badger & Sons Co., E. B.
Davis-Farnum Mfg. Co.
Gas Machinery Co.
Isbell-Porter Co.
Stacey Manufacturing Co., The.
Western Gas Construction Co.

BENZOL
Bartlett-Hayward Co.
Iron Hydroxide Co.
Gas Machinery Co.
H. Koppers Co.
Western Gas Construction Co.

BLAST FURNACES
American Gas Furnace Co.
Riter-Conley Co.

BLOW PIPES
American Gas Furnace Co.

BLOWERS
Roots Co., P. H. & F. M.
Pressure
American Gas Furnace Co.
Rotary Positive
Connersville Blower Co.

BOILER GRAPHITE
Dixon Crucible Co., Joseph.

BOOKS
American Gas Engineering Journal.
Gas Testing
American Meter Co., Inc.

BURNERS
See Lamps.
Crane Co., Wm. M.
Miner, Thos. T. W.
Wiedenhold Mantle Co.
Welsbach Co.
Fuel
American Gas Furnace Co.
Connelly Iron Sponge & Gov. Co.
Crane Co., Wm. M.

BUILDINGS
Steel Frame
Cruse-Kemper Co.
Western Gas Construction Co.

BY-PRODUCT PLANTS
Bartlett-Hayward Co.
Gas Machinery Co.
Koppers Co., H.
Western Gas Construction Co.

CALKING TOOLS
Connelly Iron Sponge & Gov. Co.
Sullivan Bros.
United Lead Co.

CALORIMETERS
American Meter Co., Inc.
Connelly Iron Sponge & Gov. Co.

CARBONIC ACID EXTRACTORS
See Purifiers, Scrubbers.

CASE-HARDENING MACHINES
American Gas Furnace Co.

CASTINGS
Scrubber—Condenser—Blower
U. S. Cast Iron Pipe & Fdry. Co.

CEMENTS
Jos. Dixon Crucible Co.
Gautier & Co., J. H.
Gerould, C. L.
Parker-Russell Min. & Mfg. Co.
Russell Engineering Co.

CHARGING MACHINERY
Bartlett-Hayward Co.
Davis & Farnum Mfg. Co.
Isbell-Porter Co.
Parker-Russell Min. & Mfg. Co.
Stacey Manufacturing Co., The.

CLOCKS
Foxboro Co., Inc.

COALS
Berwind-White Coal Mining Co.
Westmoreland Coal Co.

COAL GAS APPARATUS
American Gas Furnace Co.
Bartlett-Hayward Co.
Davis & Farnum Mfg. Co.
Didier-March Co.
Gas Machinery Co.
Improved Equipment Co.
Isbell-Porter Co.
Parker-Russell Min. & Mfg. Co.
Russell Engineering Co.
Riter-Conley Co.
Stacey Bros. Gas Constr. Co.
Stacey Manufacturing Co., The.
United Gas Improvement Co.
Western Gas Construction Co.

COAL AND COKE HANDLING MACHINERY
Bartlett-Hayward Co.
Isbell-Porter Co.
Parker-Russell Min. & Mfg. Co.
Russell Engineering Co.
Keller, C. M.

COCKS
Thos. T. W. Miner.
Lamp

COOKERS
See Ranges.

COKE CRUSHERS.
Bartlett-Hayward Co.
Keller, C. M.

COMPUTERS
United Gas Improvement Co.
Low Pressure
Cox—Amer. Gas Eng. Journal.
Fox—Amer. Gas Eng. Journal.
High Pressure
Cox—Amer. Gas Eng. Journal.

CONDENSERS
See Purifiers.

CONVEYORS
Bartlett-Hayward Co.
Davis & Farnum Mfg. Co.
Gas Machinery Co.
Isbell-Porter Co.
Mead-Morrison Mfg. Co.
Stacey Bros. Gas Constr. Co.
Stacey Manufacturing Co., The.
Western Gas Construction Co.

COUNTERS
Brown Instrument Co.
Foxboro Co., Inc.

DISCHARGING MACHINERY
Isbell-Porter Co.

DRIP PUMP BOX
Keller, C. M.

ELEVATORS
Craig Ridgway & Son Co.

ENGINEERS
Combustion
Improved Equipment Co.
Parker-Russell Min. & Mfg. Co.
Consulting
Baehr, W. A.
Barrett, William E.
Byllesby & Co., H. M.
Humphreys & Miller.
Improved Equipment Co.
Polk, Roger W.
Randolph, Wm. W.
Vincent, Lewis
Contracting
American Gas Works Constr. Co.
Baehr, W. A.
Barrett, William E.
Bartlett-Hayward Co.
Byllesby & Co., H. M.
Cruse-Kemper Co.
Davis & Farnum Mfg. Co.
Deily & Fowler Mfg. Co.
Didier-March Co.
Gas Machinery Co.
Humphreys & Miller, Inc.
Improved Equipment Co.
Isbell-Porter Co.
Lea, Henry I.
Parker-Russell Min. & Mfg. Co.
Parsons Co., The.
Polk, Roger W.
Randolph, Wm. W.
Riter-Conley Co.
Russell Engineering Co.
Stacey Bros. Gas Constr. Co.
Stacey Manufacturing Co., The.
Sullivan Brothers.
United Gas Improvement Co.
Vincent, Lewis
Western Gas Construction Co.
R. D. Wood & Co.

ENRICHERS
H. Koppers Co.

EXCAVATORS
Parsons Co., The.

EXHAUSTERS
Connelly Iron Sponge & Gov. Co.
Connersville Blower Co.
Davis & Farnum Mfg. Co.
Gas Machinery Co.
Isbell-Porter Co.
Roots Co., P. H. & F. M.
Western Gas Construction Co.

FIREBRICK—CHECKER BRICK
Didier-March Co.
Gardner, Jr., Co., James.
Gas Machinery Co.
Gautier & Co., J. H.
Improved Equipment Co.
Maurer & Son, Henry.
Missouri Firebrick Co.
Parker-Russell Min. & Mfg. Co.
Russell Engineering Co.
Union Mining Co.

FIRST-AID EQUIPMENT
United Gas Improvement Co.

FITTINGS
Donaldson Iron Co.
Western Gas Construction Co.

FIXTURES
General Gas Light Co.
Welsbach Street Lt. Co. of Amer.
Welsbach Co.

FLUE GAS ANALYSIS APPARATUS
Foxboro Co., Inc.

FURNACES—GAS
See Industrial Fuel.

GAS ANALYSIS APPARATUS
Connelly Iron Sponge & Gov. Co.
Foxboro Co., Inc.
United Gas Improvement Co.

GAS IRONS
Crane Co., Wm. M.
Perfect Combustion Co.

GAS PLANTS, COMPLETE
American Gas Works Constr. Co.
Bartlett-Hayward Co.
Davis & Farnum Mfg. Co.
Gas Machinery Co.
Isbell-Porter Co.
Parker-Russell Min. & Mfg. Co.
Russell Engineering Co.
Stacey Bros. Gas Constr. Co.
Stacey Manufacturing Co., The.
United Gas Improvement Co.
Western Gas Construction Co.
R. D. Wood & Co.

GAS PUMPS AND BOOSTERS
Connersville Blower Co.
Roots Co., P. H. & F. M.

GAS STOVES
Crane Co., Wm. M.

GAS-TESTING APPARATUS
American Meter Co., Inc.

GAUGES
Gas
Foxboro Co., Inc.
Pressure-Recording
American Meter Co.
Brown Instrument Co.
Connelly Iron Sponge & Gov. Co
Foxboro Co., Inc.
Helme & McIlhenny.
McDonald & Co., D.
United Gas Improvement Co.
Syphon
American Meter Co., Inc.

GLASSWARE
Globes, Shades and Bowls
Welsbach Co.

GOVERNORS
American Meter Co., Inc.
Chaplin-Fulton Mfg. Co.
Connelly Iron Sponge & Gov. Co.
Davis & Farnum Mfg. Co.
Reynolds Gas Regulator Co.
Automatic
Connelly Iron Sponge & Gov. Co.
Coke Oven
Connelly Iron Sponge & Gov. Co.
Gas Machinery Co.
District
Connelly Iron Sponge & Gov. Co.
Helme & McIlhenny.
Isbell-Porter Co.
Exhauster
Connelly Iron Sponge & Gov. Co.
Isbell-Porter Co.
Fuel Gas
Connelly Iron Sponge & Gov. Co.
High Pressure
Connelly Iron Sponge & Gov. Co.
Reynolds Gas Regulator Co.
Sprague Meter Co.
Low Pressure
Connelly Iron Sponge & Gov. Co.
Reynolds Gas Regulator Co.
Retort House
Connelly Iron Sponge & Gov. Co.
Gas Machinery Co.
Isbell-Porter Co.
Western Gas Construction Co.
Service
Connelly Iron Sponge & Gov. Co.
Gas Machinery Co.
Sprague Meter Co.
Station
Connelly Iron Sponge & Gov. Co.
Gas Machinery Co.
Helme & McIlhenny.
Reynolds Gas Regulator Co.
Station Automatic
Connelly Iron Sponge & Gov. Co.
Gas Machinery Co.
Western Gas Construction Co.
Station Balanced
Connelly Iron Sponge & Gov. Co.
Gas Machinery Co.
Helme & McIlhenny.
Isbell-Porter Co.
Western Gas Construction Co.

HEATERS—ROOM
American Water Heater Co.
Clow & Sons, Jas. B.
Wm. M. Crane Co.
General Gas Light Co.
Sanitary Heating Co.
See Ranges. Water Heaters.

HEATING MACHINES
American Gas Furnace Co.

HOLDERS
Bartlett-Hayward Co.
Camden Iron Works
Cruse-Kemper Co.
Davis & Farnum Mfg. Co.
Deily & Fowler Mfg. Co.
Riter-Conley Co.
Stacey Bros. Gas Constr. Co.
Stacey Manufacturing Co., The.
Western Gas Construction Co.
Wood & Co., R. D.

HYDROGEN GAS APPARATUS
Improved Equipment Co.
Western Gas Construction Co.
Foxboro Co., Inc.

INDICATORS
Brown Instrument Co.
Foxboro Co., Inc.

INDUSTRIAL FUEL APPLIANCES
American Gas Furnace Co.
Wm. M. Crane Co.

INSTRUMENTS
Recording
American Meter Co.
Brown Instrument Co.
Foxboro Co., Inc., The.
Pittsburgh Meter Co.

IRON HYDROXIDE
Iron Hydroxide Co.

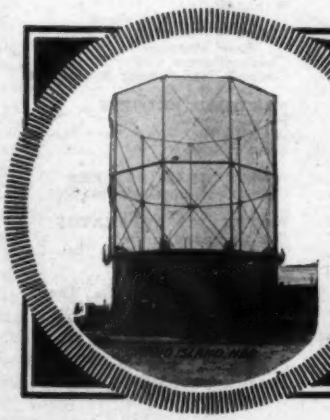
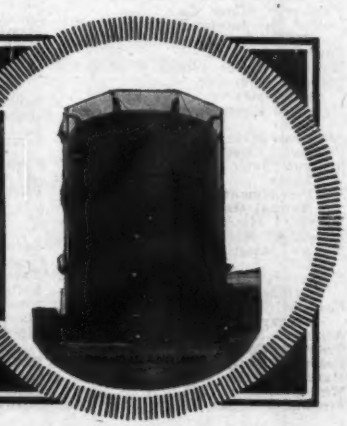
RUSSELL ENGINEERING COMPANY
SAINT LOUIS, MO.
COAL GAS BENCHES
COMPLETE COAL CARBONIZATION PLANTS

JOHN D. ORMROD, Pres. J. G. EBERLEIN, Sec'y & Treas.
EMAUS PIPE FOUNDRY
CAST IRON GAS & WATER PIPE
DONALDSON IRON CO.
EMAUS, PA.
Manufacturers of CAST IRON PIPE AND SPECIAL CASTINGS FOR WATER AND GAS, also FLANGE PIPE and FITTINGS for same.

WE SOLICIT YOUR INQUIRIES FOR EITHER
Silica or Fire Clay Benches
JAMES GARDNER, JR., COMPANY, EBENSBURG, PA.

JOHN DELL, *President and General Manager*
MISSOURI FIRE BRICK CO.,
ESTABLISHED 1882
— MANUFACTURERS OF —
Gas Retorts, Bench Settings, Fire Brick, Cupola Linings, Etc.
We are the **Exclusive Agents** *for the* **Mitchell Patent Benches,** *Constructed with Half or Full Depth Furnaces, to Burn either Coal or Coke, and Arranged for Front or* **Rear Clinkering.** **The Mitchell** *is the* **Original Coal Firing Bench.**
We also Erect Plain Benches with **One** *to* **Six Retorts.**
YOUR CORRESPONDENCE IS RESPECTFULLY SOLICITED.
City Office: *411 Olive Street, Continental Bank,* ST. LOUIS, MO.

THE WESTMORELAND COAL COMPANY
CHARTERED 1854
Mines Situated on the Pennsylvania and the Baltimore and Ohio Railroads, in Westmoreland County, Pa.
POINTS OF SHIPMENT: PHILADELPHIA, BALTIMORE, SOUTH AMBOY, N. J.
Since the commencement of operations by this Company its well-known Coal has been largely used by the Gas Companies of New England and the Middle States, and its character is established as having no superior in gas-giving qualities, and in freedom from sulphur and other impurities.
PRINCIPAL OFFICE 224 SOUTH THIRD STREET, PHILADELPHIA, PA.


Stacey Brothers Gas Construction Co.
Engineers and Manufacturers
GAS HOLDERS
Complete Gas Plants
NATIONAL CHAMBERS OVEN INSTALLATIONS
Station P Cincinnati


Buyers' Reference Index

See page 20 for Advertisements of these Products

IRON SPONGE
Connelly Iron Sponge & Gov. Co.

IRON WORK
Cruse-Kemper Co.
Davis & Farnum Mfg. Co.
Deily & Fowler Mfg. Co.
Gas Machinery Co.
Riter-Conley Co.
Stacey Bros. Gas Constr. Co.
Stacey Manufacturing Co., The.
Western Gas Construction Co.
Wood & Co., R. D.

LABORATORIES
Chemical Service Laboratories.
Electrical Testing Laboratories.

LAMPS
American Meter Co., Inc.
General Gas Light Co.
Miner, Thos. T. W.
Welsbach Co.
Welsbach Street Lighting Co.

LAMP ACCESSORIES
Meter Reading
Connelly Iron Sponge & Gov. Co.
Porch
Welsbach Co.

LAMP POSTS
Davis-Farnum Mfg. Co.
General Gas Light Co.
Miner, Thos. T. W.
U. S. Cast Iron Pipe & Fdry. Co.
Welsbach Street Lighting Co.
Western Gas Construction Co.
Wood & Co., R. D.

LEAD WOOL
United Lead Co.

LIQUID LEVER GAGES
Foxboro Co., Inc.

MACHINERY
See Annealing Machines.
Backfillers.
Charging Machinery.
Coal Gas Apparatus.
Conveyors.
See Tempering Machines.
Trench Machinery.
Water Gas Apparatus.

MAINS
Sullivan Bros.
See Pipe. Lead.

MANTLES
General Gas Light Co.
Miner, Thos. T. W.
Wiederhold Mantle & Burner Co.
Welsbach Street Ltg. Co. of Amer.
Welsbach Co.

METERS
Acetylene
American Meter Co., Inc.
Pittsburgh Meter Co.
Sprague Meter Co.
Air
Foxboro Co.
Gas Machinery Co.
Pittsburgh Meter Co.
United Gas Improvement Co.
Artificial Gas
Foxboro Co., Inc.
Maryland Meter Works.
Sprague Meter Co.
Complaint
Maryland Meter Works.
Dry
American Meter Co., Inc.
Pittsburgh Meter Co.
Sprague Meter Co.
Locks
See Prepayment.
Natural Gas
Maryland Meter Works.
Pittsburgh Meter Co.
Sprague Meter Co.
Oil
Foxboro Co., Inc.
Orifice
Foxboro Co., Inc.
Prepayment
American Meter Co., Inc.
Griffin & Co., John J.
Helme & McIlhenny.
Maryland Meter Works.
McDonald & Co., D.
Pittsburgh Meter Co.
Sprague Meter Co.
Proportional
Pittsburgh Meter Co.
Regular
American Meter Co., Inc.
Griffin & Co., John J.
Helme & McIlhenny.
Maryland Meter Works.
McDonald & Co.
Pittsburgh Meter Co.
Sprague Meter Co.
Station
American Meter Co., Inc.
Griffin & Co., John J.
Helme & McIlhenny.
Maryland Meter Works.
McDonald & Co.
Steam
Foxboro Co., Inc.
Gas Machinery Co.
United Gas Improvement Co.
Western Gas Construction Co.
Test
American Meter Co., Inc.
Maryland Meter Works.
Pittsburgh Meter Co.
Sprague Meter Co.
Wet
American Meter Co., Inc.
Helme & McIlhenny.
Pittsburgh Meter Co.

MOISTURE DETERMINATORS
United Gas Improvement Co.

MOTION RECORDER
Brown Instrument Co.
Foxboro Co., Inc.

OUTDOOR LIGHTING FIXTURES
See Street Lamps.
Lamp Posts.

OVENS—COKE AND GAS
H. Koppers Co.
Gas Machinery Co.
Parker-Russell Min. & Mfg. Co.
Russell Engineering Co.
Stacey Bros. Gas Constr. Co.

OXIDE
Iron
Connelly Iron Sponge & Gov. Co.
Iron Hydroxide Co.
United Gas Improvement Co.
Buyers—Spent Oxide
Henry Bower Chem. Mfg. Co.
Reclamation Process
Stevens-Aylsworth Co.

PAINTS
Dixon Crucible Co., Jos.

PHOTOMETERS
American Meter Co., Inc.
United Gas Improvement Co.
Jones Jet—Knott
Connelly Iron Sponge & Gov. Co.

PLANTS—COMPLETE
See Engineers—Contracting.

PIPE—CAST IRON
Cast Iron Pipe Publicity Bureau.
American Cast Iron Pipe Co., The.
Clow & Sons, James B.
Davis & Farnum Mfg. Co.
Donaldson Iron Co.
Glamorgan Pipe & Foundry Co.
Lynchburg Foundry Co.
Massillon Iron & Steel Co.
U. S. Cast Iron Pipe & Fdry. Co.
Warren Foundry & Machine Co.
Wood & Co., R. D.
Laying
Sullivan Bros.
United Lead Co.

PLANEMETER
Radial
Foxboro Co., Inc.

PLATES
Floor
U. S. Cast Iron Pipe & Fdry. Co.
Metal
Bartlett-Hayward Co.
Cruse-Kemper Co.
Davis-Farnum Mfg. Co.
Deily & Fowler Mfg. Co.
Riter-Conley Co.
Stacey Mfg. Co.
Wood & Co., R. D.

PROCESSES
See Coal Gas Apparatus.
Water Gas Apparatus.
Hydrogen Gas Apparatus.

PRODUCER GAS PLANTS
Bartlett-Hayward Co.
Gas Machinery Co.
Western Gas Construction Co.
Wood & Co., R. D.

PROVERS—METER
American Meter Co., Inc.
Helme & McIlhenny.
Maryland Meter Works.
McDonald & Co., D.
Pittsburgh Meter Co.
Sprague Meter Co.

PUMPS
Drip—Tar—Oil
American Meter Co., Inc.
Connersville Blower Co.
Roots Co., P. H. and F. M.

PURIFIERS
Bartlett-Hayward Co.
Camden Iron Works
Cruse-Kemper Co.
Davis & Farnum Mfg. Co.
Gas Machinery Co.
Isbell-Porter Co.
Parker-Russell Min. & Mfg. Co.
Stacey Bros. Gas Constr. Co.
Stacey Manufacturing Co., The.
United Gas Improvement Co.
Western Gas Construction Co.
Wood & Co., R. D.

PURIFYING MATERIALS
Connelly Iron Sponge & Gov. Co.
Gas Machinery Co.
Iron Hydroxide Co.
Pennsylvania Salt Mfg. Co.
Western Gas Construction Co.

PURIFIER TRAYS
Connelly Iron Sponge & Gov. Co.
Davis & Farnum Mfg. Co.
Gas Machinery Co.
Western Gas Construction Co.

PYROMETERS—RECORDING
Brown Instrument Co.
Foxboro Co., Inc., The.
United Gas Improvement Co.

RANGES—GAS
Crane Co., Wm. M.

RECORDERS
Brown Instrument Co.
Foxboro Co., Inc.

RECOVERY PLANTS—BENZOL AND TOLUOL
Badger & Sons Co., E. B.

RED ORE
Connelly Iron Sponge & Gov. Co.
Pennsylvania Salt Mfg. Co.

REGULATORS
See Heating Machines.
American Gas Furnace Co.
Brown Instrument Co.
Natural Gas
Reynolds Gas Regulator Co.
Pressure—Temperature
Foxboro Co., Inc.

RETORTS
Horizontal and Inclined
Didier-March Co.
Gardner, Jr., Co., James.
Gas Machinery Co.
Gautier & Co., J. H.
Improved Equipment Co.
Isbell-Porter Co.
Maurer & Son, H.
Missouri Fire Brick Co.
Parker-Russell Min. & Mfg. Co.
Russell Engineering Co.
Stacey Bros. Gas Constr. Co.
Silica and Clay
Didier-March Co.
Gardner Co., James.
Gas Machinery Co.
Gautier & Co., J. H.
Improved Equipment Co.
Parker-Russell Min. & Mfg. Co.
Russell Engineering Co.
Vertical
Bartlett-Hayward Co.
Gas Machinery Co.
Isbell-Porter Co.
United Gas Improvement Co.

RUBBER GOODS
See also Bags.

SECOND-HAND EQUIPMENT
Machinery Utilities Co.

SERVICES
Sullivan Bros.
See also Pipe.

SCRUBBERS
See Purifiers.

SILICA AND CLAY
Jos. Dixon Crucible Co.

SEMI-STEEL CASTINGS
U. S. Cast Iron Pipe & Fdry. Co.

STEEL CONSTRUCTION
See Iron Work.

STOKING MACHINERY
See Charging Machinery.

STOPPERS
Gas Main
Safety Gas Main Stopper Co.

STORAGE TANKS
See Holders.

STREET LAMPS
Miner, Thos. T. W.
Welsbach Co.
Welsbach Street Lighting Co.

TACHOMETERS
Brown Instrument Co.
Foxboro Co., Inc.

TANKS
Bartlett-Hayward Co.
Cruse-Kemper Co.
Davis-Farnum Co.
Deily & Fowler Mfg. Co.
Riter-Conley Co.
Stacey Mfg. Co., The.
Western Gas Construction Co.
Wood & Co., R. D.

TAR EXTRACTORS
See Coal Gas Apparatus.
Water Gas Apparatus.

TEMPERATURE CONTROLLING DEVICE
American Gas Furnace Co.
Foxboro Co., Inc.

TEMPERING AND COLORING MACHINE
American Gas Furnace Co.
Brown Instrument Co.

THERMOMETERS
American Meter Co.
Brown Instrument Co.
Connelly Iron Sponge & Gov. Co.
Foxboro Co., Inc., The.

TIME RECORDERS
Brown Instrument Co.
Foxboro Co., Inc.

TOOLS
Connelly Iron Sponge & Gov. Co.
Safety Gas Main Stopper Co.

TOWERS
Cruse-Kemper Co.
Wood & Co., R. D.

VALVES
Gas
Bartlett-Hayward Co.
Connelly Iron Sponge & Gov. Co.
Connersville Blower Co.
Davis & Farnum Mfg. Co.
Gas Machinery Co.
Isbell-Porter Co.
Ludlow Valve Mfg. Co.
Roots Co., P. H. & F. M.
Stacey Bros. Gas Constr. Co.
Stacey Manufacturing Co., The.
Western Gas Construction Co.
Wood & Co., R. D.
Lamp
Welsbach Co.
Oil, Steam and Water
Ludlow Valve Mfg. Co.
Back Pressure
Chaplin-Fulton Co.
Connelly Iron Sponge & Gov. Co.

VERTICAL RETORTS
See Retorts.

WASHERS
See Purifiers.

WASTE HEAT BOILERS
United Gas Improvement Co.

WATER GAS APPARATUS
Bartlett-Hayward Co.
Connelly Iron Sponge & Gov. Co.
Davis-Farnum Co.
Gas Machinery Co.
Stacey Manufacturing Co., The.
United Gas Improvement Co.
Western Gas Construction Co.

WATER HEATERS
American Water Heater Co.
Crane & Co., Wm. M.
Long-Landreth-Schneider Co.
Western Gas Construction Co.

Westinghouse

Positive Gas Meters

For the measurement of Gas Impregnated with Gasoline or Other Condensation

An Automatic Overflow drains off all Gasoline or Other Condensate

Pittsburgh Meter Company, East Pittsburgh, Pa.

GEROULD'S IMPROVED RETORT CEMENT

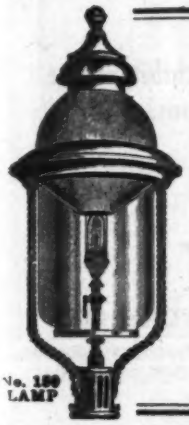
The Old Reliable

A cement of great value for patching retorts, putting on mouthpieces, making up all bench-work joints, lining blast furnaces and cupolas. This cement is mixed ready for use. Economic and thorough in its work. Fully warranted to stick.

Price List, f.o.b. NORWALK, CONN.

In Casks, 400 to 800 pounds, at 5 cents per pound
In Kegs 100 to 200 " " 6 " "
In Kegs less than 100 " " 7 " "

C. L. GEROULD NORWALK, CONN.



"THE MINER"

Globe Street Lamps

FOR

ALL KINDS OF GAS OR BURNERS
Lamp Posts, Cocks and Burners
Everything Necessary for

STREET LIGHTING

This cut shows our No. 150 LAMP, which is but one of a large variety of designs. If you are interested in street or park lighting, we want to send you our catalog and prices.

Thos. T. W. Miner

819-823 Eagle Ave., New York, N. Y.

PUBLIC LIGHTING TABLE
MOONLIGHT SCHEDULE

JUNE, 1918
Prepared by American Meter Company

Day of Week	Date	Sun Time Light		Sun Time	Extinguish	
Saturday	1	7.50	P. M.	L. Q.	1.10	A. M.
Sunday	2	7.50			1.40	
Monday	3	7.50			2.10	
Tuesday	4	7.50			2.50	
Wednesday ...	5	7.50			3.30	
Thursday	6	7.50			3.30	
Friday	7	7.50			3.30	
Saturday	8	7.50		N. M	3.30	
Sunday	9	8.00			3.30	
Monday	10	8.00			3.30	
Tuesday	11	8.00			3.30	
Wednesday ...	12	8.00			3.30	
Thursday	13	9.50			3.30	
Friday	14	10.10			3.30	
Saturday	15	10.40			3.30	
Sunday	16	11.00		F. Q.	3.30	
Monday	17	11.30			3.30	
Tuesday	18	11.50			3.30	
Wednesday ...	19	12.30	A. M.		3.30	
Thursday	20	1.00			3.30	
Friday	21	1.50			3.30	
Saturday	22	No Lighting			No Lighting	
Sunday	23	No Lighting		F. M.	No Lighting	
Monday	24	No Lighting			No Lighting	
Tuesday	25	8.00	P. M.		9.30	P. M.
Wednesday ...	26	8.00			10.10	
Thursday	27	8.00			10.40	
Friday	28	8.00			11.20	
Saturday	29	8.00			11.40	
Sunday	30	8.00		L. Q.	12.20	A. M.

Established 1858 *Incorporated 1890*

CHAS. E. GREGORY, President — DAVID R. DALY, Vice-President and Treasurer — H. D. ABERNETHY, Secretary

J. H. GAUTIER & CO.

Jersey City, N. J.

COAL GAS BENCHES

Silica Retorts and Settings

Clay Gas Retorts Fire Brick

Water Gas Linings, etc.

GOODMAN STOPPER

The Half Minute

GAS MAIN SHUT-OFF

AWARDS

A SILVER MEDAL, St. Louis, 1904
A GOLD MEDAL, San Francisco, 1915

MANUFACTURED AND SOLD BY Safety Gas Main Stopper Co.

90 Alexander Avenue, near 133rd Street, New York

Three Mighty Services From Your Inquiry

Do you realize the three-fold service you render to the gas industry when you write for a manufacturer's catalog or information? Here they are:

First to the advertiser—by broadening his product and creating sales prospects.

Second to the paper—by increasing its value as an advertising medium—the more so when you mention where you saw it.

Third—the strongest of all—to the reader—by such direct results the periodical thrives financially, and so can give better service and more of it to its readers.

It costs you nothing to do this—just look over these advertising pages and pick the products you want to know more about. Many of the catalogs should be at your right hand—a letter will put them there.

American Gas Engineering Journal

NEW YORK PHILADELPHIA CHICAGO

AMERICAN METER COMPANY
(Incorporated)
Established 1834

As the season for gas complaints approaches we wish to call your attention to our New American Service Cleaner, which has been on the market for more than five years and has met with universal approval.

CATALOGUE SENT ON REQUEST

Our apparatus in the Collective Gas Exhibit at the Panama-Pacific International Exposition was awarded the Grand Prize

AMERICAN METER COMPANY
(Incorporated)
105 WEST 40th STREET NEW YORK CITY

HELME & McILHENNY
1339-1349 Cherry St., Philadelphia, Pa.

ESTAB. 1848 H & McI
High Grade Meters

GAS METERS

HINMAN DRUM STATION METERS, FOULIS GAS GOVERNORS
PREPAYMENT METERS
REPAIRING AND CONVERTING

PROMPT SHIPMENTS - - - - - CORRESPONDENCE SOLICITED

New England Agents:
WALDO BROS., INC.
45-49 Batterymarch St., Boston, Mass.

THE IMPROVED EQUIPMENT CO.
Combustion Engineers
60 Wall Street New York City

ESTABLISHED 1855

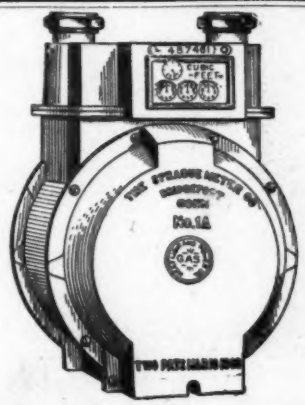
McDONALD METERS

NOTED FOR ACCURACY

Consumers' Meters, Regular and Prepayment. Station Meter Work of Every Description. Meters Repaired. Meter Provers. Correspondence Solicited.

D. McDONALD & CO.

ALBANY, N. Y.



Dependable Accuracy
Lessens Maintenance

With **Sprague Meters** it saves 65 per cent of the upkeep costs. Figure it on the years' installations —then write for proof.

SPRAGUE METER COMPANY
BRIDGEPORT, CONN.
Los Angeles, Cal., Davenport, Ia., San Francisco, Cal

THE MARYLAND METER

"B" METERS

For Increased Capacity under Slow Speed Operation

ARTIFICIAL AND NATURAL GAS METERS, PREPAYMENT METERS, STATION METERS, METER PROVERS, COMPLAINT METERS, &c. SPECIAL ATTENTION TO REPAIR WORK

MARYLAND METER WORKS
OF
AMERICAN METER CO., Inc.
Baltimore, Md.

N. W. Representative—Northwest Gas & Electric Equipment Co., 412-415 Gasco Bldg., Portland, Ore.

GAS METERS

STATION METERS

GAS APPARATUS

PREPAYMENT METERS

THERE ARE UPWARDS OF

2,000,000 of Our Positive Pre-Payment Meters

NOW IN USE IN THE UNITED STATES

Repairing carefully done. Regular meters repaired and converted into Prepayment Meters, if desired. Send for our catalog.

JOHN J. GRIFFIN & CO.

1513 TO 1521 RACE STREET

PHILADELPHIA

559 WEST 47TH ST. NEW YORK CITY